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Western RADIO Amateur

November 30, 1959

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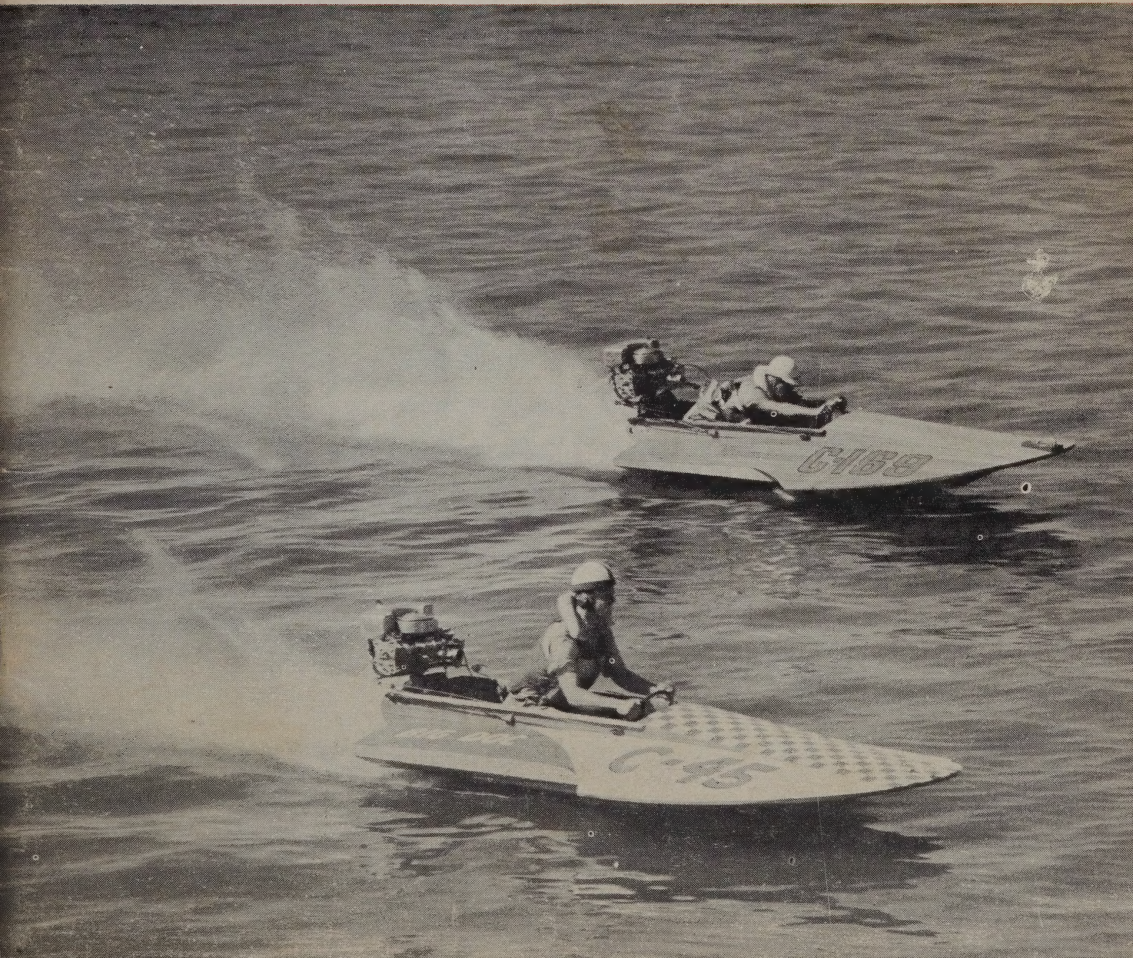

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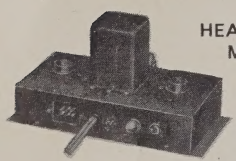

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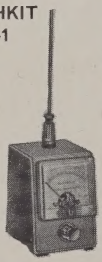

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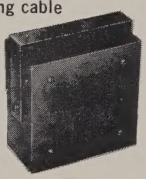
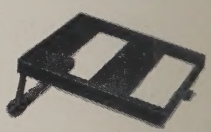


MOBILE SPEAKER KIT



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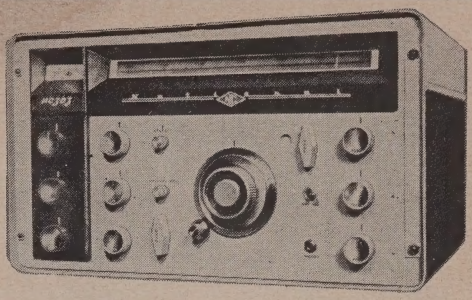

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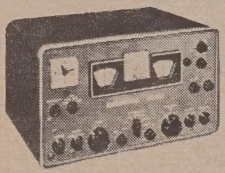

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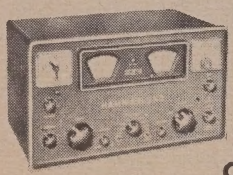

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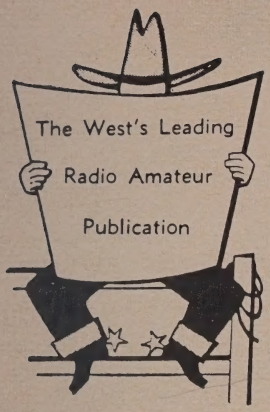

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NOVEMBER 30, 1959

CONTENTS

QST DXers 4
Six 'er Two Converter ..... Stoner 5
SSB Exciter from a Command Receiver ..... Marriner 8
Seabees Station Celebrates 1000th Message 11
Handy Tool for Phone Plugs ..... Pyle 12
Sidelights on Sideband ..... Earnshaw 14
Royal Order of Hootowls ..... Singleterry 17
San Diego Zero Beat ..... Marriner 18
Your Signal is in Space ..... Harry Habig 20
The Diode Power Supply ..... Marriner 22
Picon and Fun Too ..... Bob Dailey 25
Random Radiation ..... Pyle 27
VHF Record ..... Cooper 28
Pioneer Wireless ..... Seefred 30
with the Young Ladies ..... Kincheloe 31
Ham Ads 44

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QST DXers

In all of Hamdoms ranks, perhaps no group exists which is more ardent than the DXer. These hardy souls who burn the midnight oil and spend countless hours in search of that rare one will be happy to learn that commencing with the next issue our DX Column will be back in full swing. We were indeed sorry to lose Dick Spenceley, KV4AA, but as you probably know, Dick is now publishing the Yasme News, and therefore could not continue writing the DX Column for Western Radio Amateur. However, we have accepted an offer from a very capable DXer to take over the column, whom we are sure will do as good a job as KV4AA.

Jack Clement, W6NTR, became interested in 'Wireless' way back in 1912 at the tender age of nine. First licensed in 1919 as 1AEF in Waltham, Mass. Jack moved to the Golden State in 1923, and was licensed as 6BDE in San Diego. Transmitters have always been low power by California standards (40-125 watts). Present transmitter is a Viking 1 (120 watts) operating 99.8% CW. In spite of the low power, and a sign of a true and very capable DX man, Jack has quite an impressive array of awards such as: DXCC 280 confirmed, WAZ, WAP, WAA, WACE, WASM, WFE, WJDXRC, DUF4, CAA6, TPA, WBE, BERTA, Empire DX, WAZL (first to a W station), WANA II, 599, WAKI, 20K, WAC-YL, etc. etc.

As you know, any column is dependent upon items contributed to its editor, so we urge you to send any information, pictures, etc. to Jack Clement, W6NTR, 6612 Andasol Ave., Van Nuys, Calif.

Ordinarily this magazine would not make a special point of publicizing another publication, but unusual circumstances warrant special action.

Many WRA readers also subscribe to a fine weekly titled simply 'DX', published by Don Chesser, W4KVX. Don's weekly DX tips were a 'love of life', for the magazine carried no advertising and was turned out on a 'break even' basis using ancient equipment. Even so it was top notch quality, professionally done, and eagerly awaited by DX'ers around the world.

You will be shocked to learn that on November 28th a disasterous fire completely wiped out Don's publishing facilities, not to mention his ham station on which he collected his DX tips, and his TV servicing shop which provided his livelyhood. About the only thing saved was the priceless Addressograph plates.

The most unfortunate part is that Don was served by a volunteer fire department and therefore could not obtain insurance for his building or personal property.

It will be a big job getting DX back in the mails again and Don Chesser will need all the help we as Amateurs can provide. Your editor would like to make the following suggestions; If you already subscribe to DX, why not renew your subscription for as long as you can afford, even though it is not due to expire?

If you do not subscribe to DX, and are even remotely interested in this phase of ham radio, by all means subscribe to this excellent DX bulletin.

If you have anything in the way of printing equipment, or TV service gear, W4KVX could surely use it.

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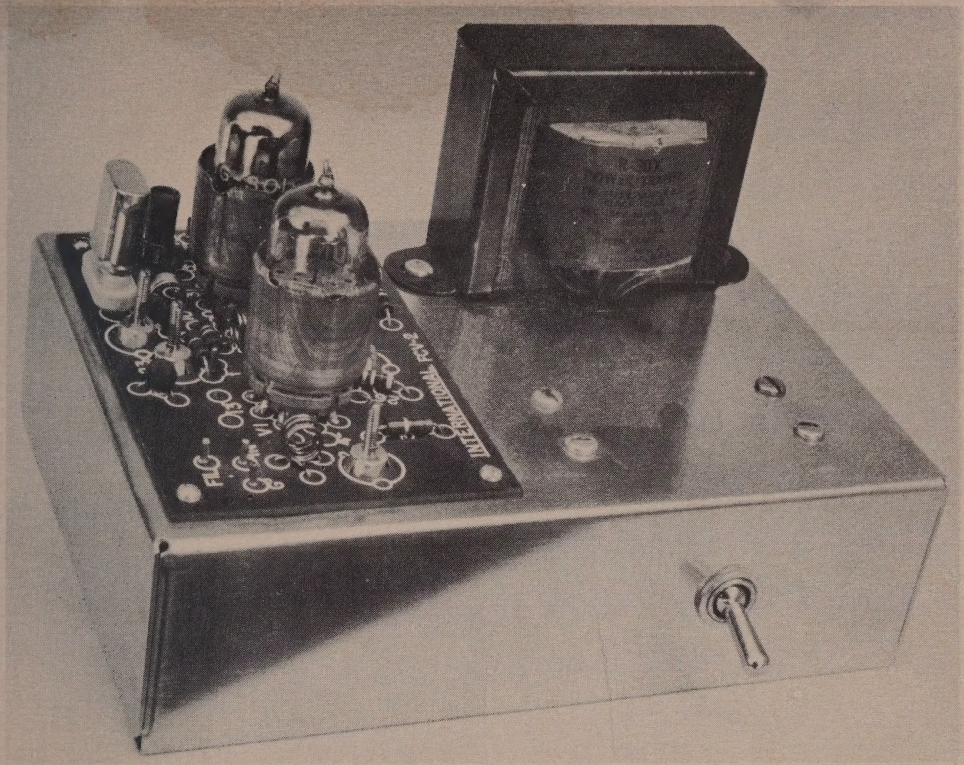
Don Chesser, W4KVX, Route #1, Burlington, Ky.



build the

SIX 'er TWO CONVERTER

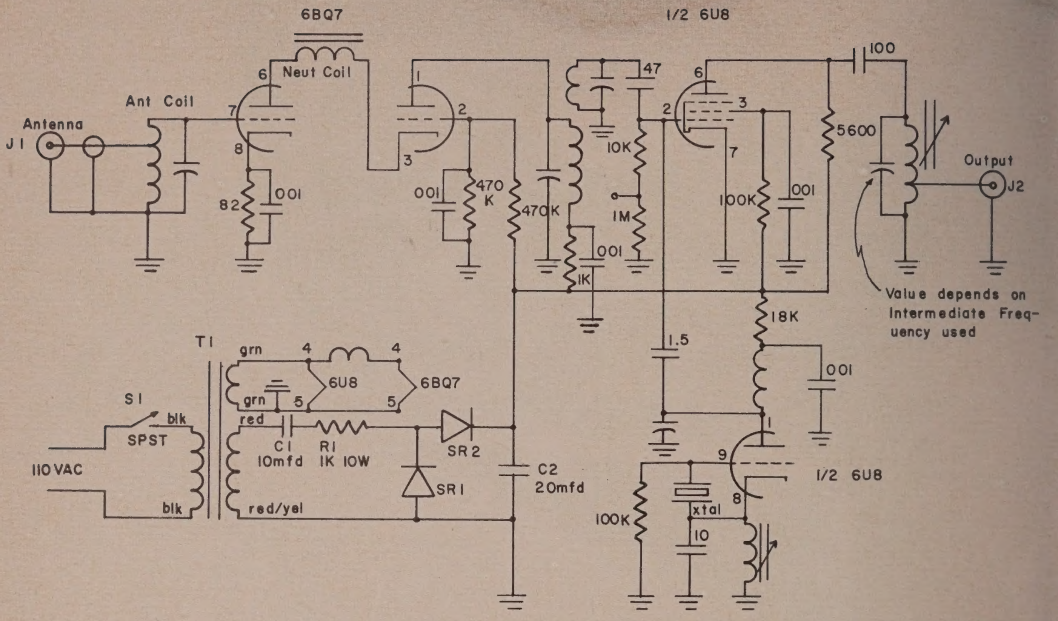
Donald L. Stoner, W6TNS
P.O. Box 137
Ontario, California

Beginning hams often avoid the six or two meter band like the plague. In most cases complicated equipment is required to perform on these frequencies. This is not always the case, however, and the Six 'Er Two is a noteworthy exception. You can build this VHF (very high frequency) converter and eaves drop on the band all in a single evening!

Pruning and tuning coils is a tedious task, to be sure, but this chore is neatly eliminated by using an International Model FCV-2 converter. These units are available for either the six (50- 54 mc) or two (144- 148 mc) meter band. The same converter will not work for both bands, however. The FCV-2 is available in either kit or wired and tested form. Wiring the kit takes only a couple of hours because a printed circuit board is used for the wiring. You simply drop the leads in the holes and solder 'em up. Only a few small inexpensive parts are required, additionally, for the power supply.

CONSTRUCTION

A 5 inch by 7 inch by 2 inch aluminum chassis is used to mount the converter and the power supply. The converter printed circuit board is mounted over a cut-out at the left side of the chassis. The only other component mounted above the chassis is the power supply trans-



PARTS LIST

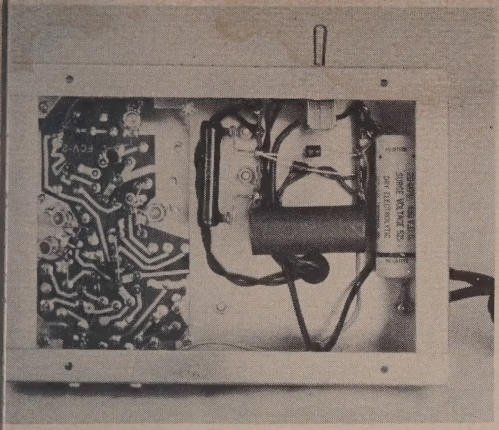
C1- 10 mfd., 450 volt "pig-tail" electrolytic (Sprague TVA-1705)
C2- 20 mfd., 450 volt "pig-tail" electrolytic (Sprague TVA-1709)
J1, J2- RCA phono connectors (to suit installation)
R1- 1,000 ohm, 10 watt, wire-wound resistor
S1- SPST toggle switch
SR1, SR2- Silicon rectifiers 150 ma., 400 piv see text (Texas instruments 1N2070)
T1- Power transformer, 135 volts, 50 ma., 6.3 volts, 1.5 amperes (Triad R-30X)
International FCV-2 six or two meter converter for 7-11 mc. i.f., see text (International Crystal Mfg. Oklahoma, City.)
Miscellaneous parts required: Chassis 5" x 7" x 2", line cord, six 6/32 nuts, bolts, and washers, #6 solder lug, two 3/8" rubber grommets, two 3 lug terminal strips (Cinch Jones 53B or C), 6" length of RG-58/U coaxial cable.

former. Terminal strips are used. below the chassis to secure the rectifier, filter capacitors, and the dropping resistor.

As soon as you have completed the converter wiring, cut the holes in the chassis. Temporarily secure the converter and make sure that the soldered connections or copper foil does not short out (except the ground foil, running around the edge of the board). If you wish, you can mount the board using washers between it and the chassis. The board will not be as strong, however, and might break if something were dropped on it.

Install the rubber grommets on the top and rear apron. Secure the terminal strips using washers between the mounting feet and the chassis. Install the jacks using 4/40 hardware. The power switch is secured to the front panel with the two terminals toward the top of the chassis. Last, but not least, mount the power transformer, with a no.6 solder lug under the nut nearest the edge of the chassis.

Wire the Six 'Er Two as shown in the schematic. A short length of coaxial cable is used to connect the jack with the input of the FCV-2. The output lead can be a short length of tinned wire, run directly to the output jack. The 1000 ohm wire-wound resistor should be kept clear of the other parts and wires, as it gets quite hot. Be sure the filter capacitors and the



silicon rectifier are installed correctly. They will be ruined if you get the polarity reversed. Knot the line cord just inside the grommet and wire to the switch and terminal strip as shown.

TESTING

Remove the tubes from the FCV-2 unit. Measure the resistance from the positive end of C2 to the chassis. It should be higher than 100,000 ohms. If it is, apply power to the line cord and measure the B plus voltage at the same point. The meter should read around 325 volts dc. Measure the filament voltage between the chassis and the test point marked FIL on the FCV-2. It will read around 7 volts ac.

If everything checks out, you can insert the tubes and connect the unit to your antenna and receiver. Since the coils are pretuned, they will be close to the operating frequency, and will only need a 'touch-up'. If the oscillator is working properly you should hear signals on your receiver. If the oscillator does not seem to be working, connect a vacuum tube voltmeter to the test point marked 't', with the positive meter lead connected to the chassis. Adjust the slug of coil 14 and capacitor 24 for maximum negative voltage. You will notice that as you turn the coil slug clockwise, the voltage will suddenly drop. Set the slug ½ turn from this point, in the counter clockwise direction to insure stable oscillations. Capacitors 2, 23, and 25 and inductor 29 can be 'peaked up' for maximum signal strength or aligned with a signal generator as described in the International instruction manual. Capacitor 2 will have a very subtle effect on the signals, however. With the slug in the capacitor (CW) the signals will be strong but noisy. Near the CCW end (slug out) the signal will be weak but fairly noise-free. Somewhere between these two extremes will be the point where you obtain the strongest noise free signal.

The choice of antenna is up to the constructor. A 19 inch length of wire connected to the antenna jack may pick up a few signals, but a ground plane or beam on the roof will give the best results. Suitable antennas, and their characteristics are described in the various handbooks.

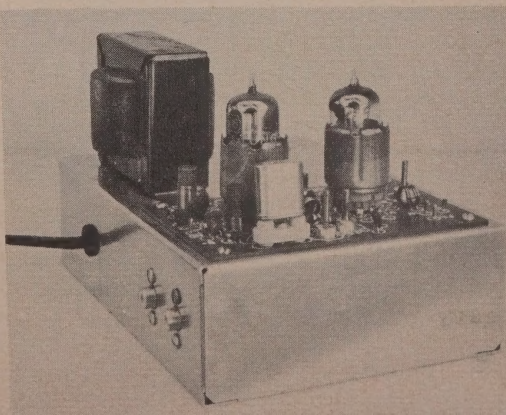
****

HOW IT WORKS

The purpose of a converter is to 'change' the high frequency signals to a range that can be received on a communications receiver. In as much as special circuits are required to tune the VHF frequencies, most receivers have a high frequency tuning limit of 30 mc.

The Six 'Er Two converter consists of a 6BQ7 dual triode 'cascode' r.f. amplifier. This type of circuit greatly amplifies the signal and generates a minimum of noise. Amplified signals are fed to the mixer (½ 6U8) and are combined with the oscillator voltage. The 'converted' signals from the mixer are fed to the communications receiver.

Continued on page 34



SSB EXCITER

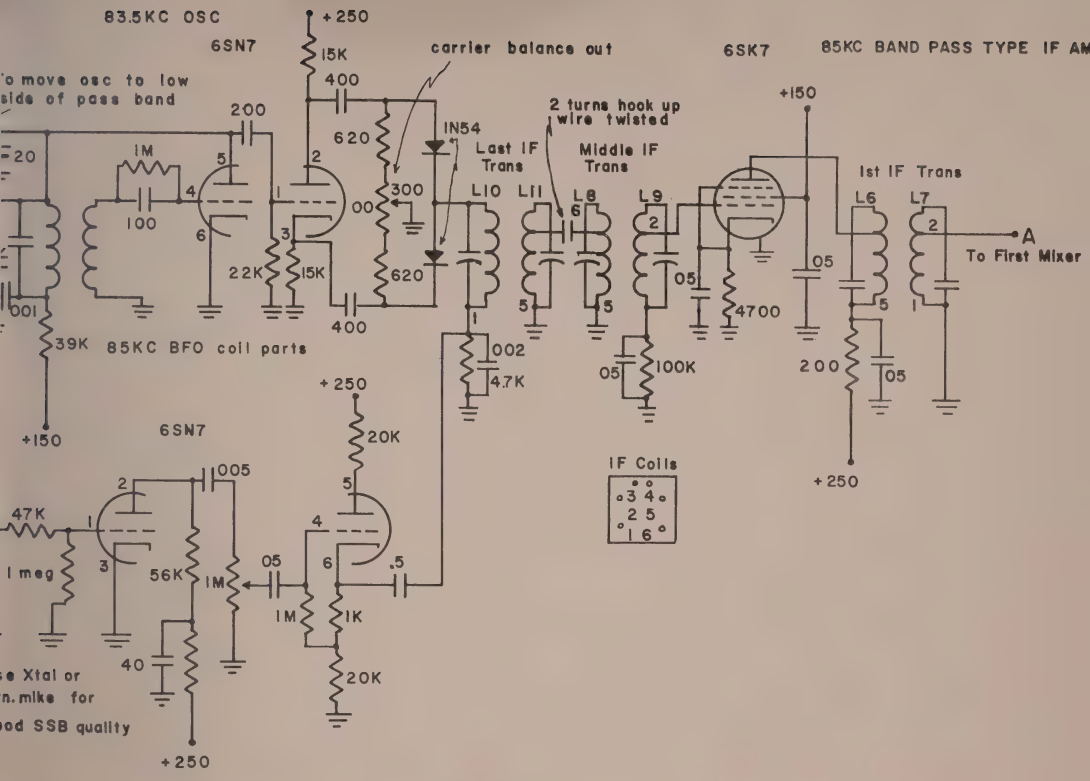
from a

COMMAND RECEIVER

E. H. Marriner, W6BLZ
528 Colima Stree
La Jolla, California

I have been using a SSB exciter made from the 'Q' fiver receiver which has been so popular. It tunes the frequency range 190 kcs to 450 kcs. The original circuit was worked out by W6EI and W6DMN. So many fellows have asked what the circuit looks like, I thought it would be a good idea to publish it in WRA. It is an excellent mobile exciter because the VFO is tuning 190-450 kcs in place of the usual 5 mcs. Thus the stability is very good for mobile, especially removing the frequency shift trouble which develops when the car motor is started using a 5 mcs VFO. The method of SSB generation is cheap in money, only the cost of the receiver. However it is a project for the more experienced amateur who has some test equipment and understands what he is attempting. The unit if carefully shielded in the right places has plenty of carrier suppression. Also a reasonable amount of sideband suppression using the 80 kc i.f.'s in the receiver as a band pass filter. All of the present receiver wiring has to be removed except the wires going to the coils. This is time consuming but many fellows enjoy tinkering rebuilding surplus equipment and it is surprising the number of these rigs that have been put on the air. It will be necessary to have a circuit of the receiver and some test equipment. Another low frequency receiver to listen and tune with is almost a necessity. This way it is possible to get the exciter working before heterodyning down to the 3.8 mc range. The exciter would make a good club project with an experienced amateur in charge who has gone through the process before. There are many wires which should be shielded so that the carrier does not go around the filter. These places can best be found using an R-F probe to detect the carrier and shield these wires from coupling to others. Also resistors and condensers can be used to form a filter to keep the carrier from going back into the power leads and filament supplies. This part is difficult to explain on a drawing and is the main reason there has not been too much publicity given the circuit as it is no beginner's project.

It will be best to make the exciter for just 80 meters and use high level mixing to get to the other bands. It is much easier to make the thing work on 80 meters as the tuned circuits will separate the crystal injection frequency. on 40 meters a 6.9 kc crystal has to be used. This is difficult to trap out and not feed through along with 7.2 kc which you want. A trap has to be hi Q or it will take the


83.5KC OSC
6SN7
+250
15K
400
carrier balance out
6SK7
85KC BAND PASS TYPE IF AMP.
To move osc to low side of pass band
200
620
IN54
2 turns hook up wire twisted
+150
Last IF Trans
Middle IF Trans
1st IF Trans
1M
100
300
L10
L11
L8
L9
L6
L7
A
To First Mixer
22K
15K
620
400
.05
4700
.001
39K
85KC BFO coil parts
.002
4.7K
100K
200
+150
+250
6SN7
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.5
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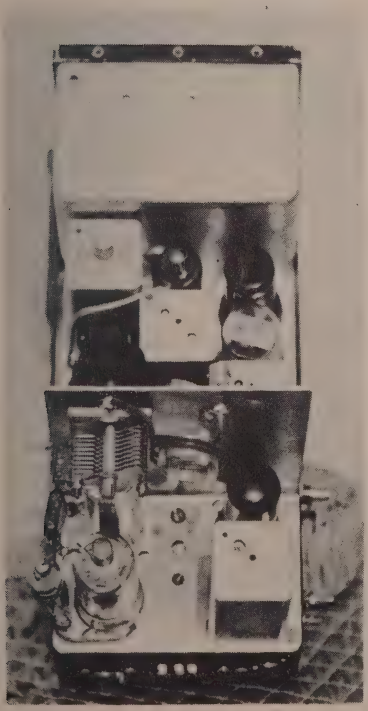
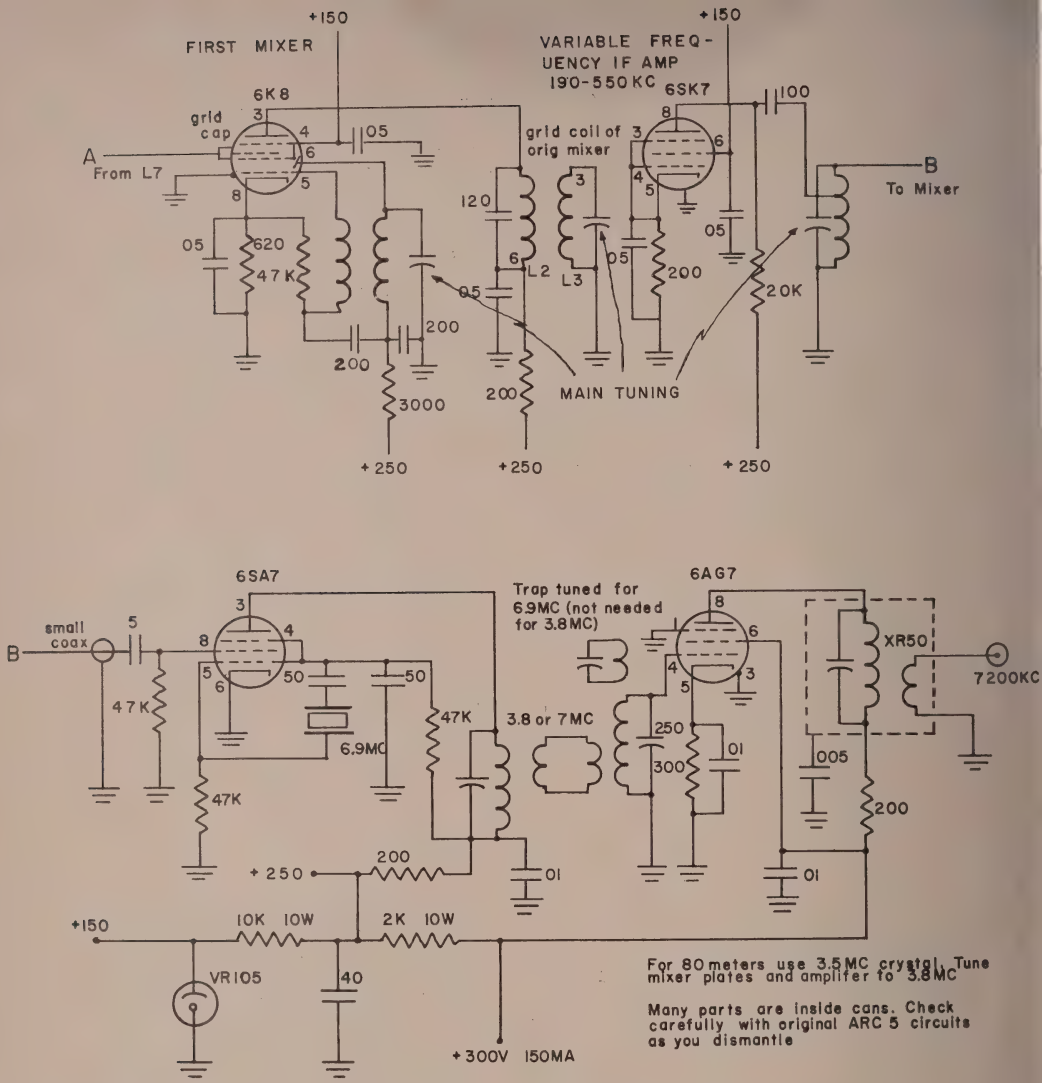
od SSB quality
+250

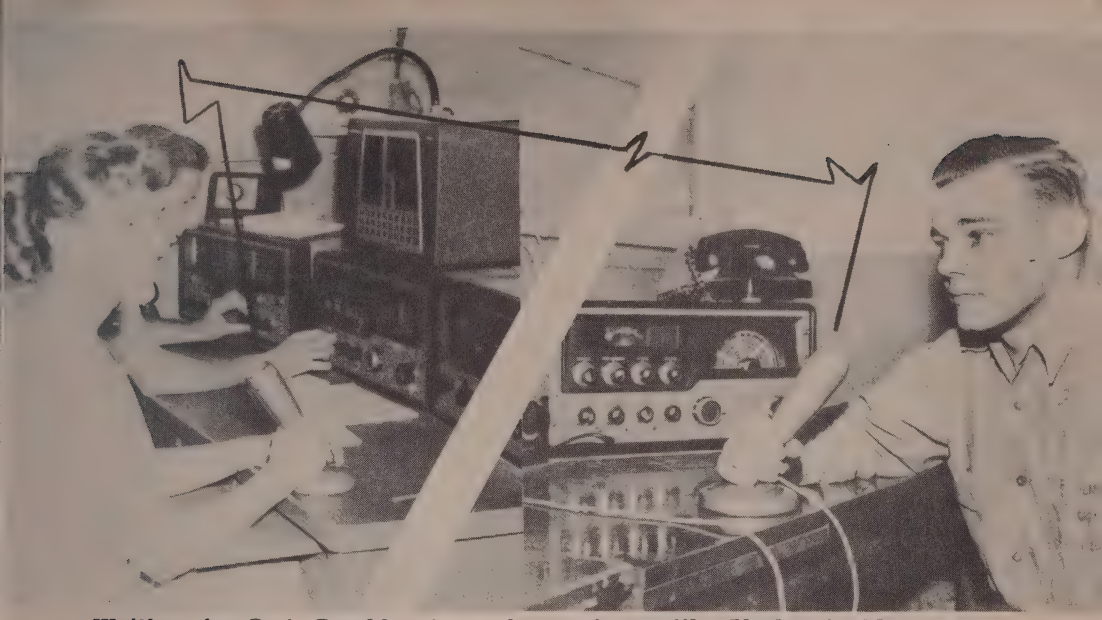




7.2 kc signal out along with it. Most fellows just put the 6AG7 on the chassis, but there is room for a 2E26 or 6146 if you arrange the parts.

When the exciter is finished it is tuned on 80 kcs first with the BFO condenser in mid scale. Then about 20 uufd of condenser is added to the 80 kc oscillator so that it moves it down on the slope of the i.f. band pass. A little adjustment of the 80 kc variable BFO along with listening on the auxiliary receiver will indicate the proper point to set the BFO frequency. It is true this only gives us SB-1 for 80 meters. It would be possible but more difficult to have both sidebands. Many fellows have opened the BFO coil and taken off turns and added a switch. By padding with condensers both the upper and lower side bands can be obtained.

Thus ends my tale of the SSB exciter made from the low frequency series surplus receivers. You don't have to be nuts to build it, but it might help. They are difficult to work on, and the first is the toughest. W6IQY has built six of them in all sizes shapes and forms for his mobile rig. Even removing the sockets and dipping the chassis in lacquer thinner to make it shine. Oh! the patience some people have.



Waiting for Bert Raschke to make contact with Alaska is Mrs. R.B. Thompson. Her husband, Equipment Operator Second Class R.B. Thompson, waits patiently at the other end of the line. Their conversation marked the 1000th overseas contact made by the Seabee Amateur Radio Station K6NCT since it was commissioned in December 1958. By means of ham radio, the Thompsons close the 3000 mile gap between Port Hueneme, California and Adak, Alaska each week and for a few moments are only a voice apart. They are but one of the many families who use the Seabee's ham radio to keep in touch. Official photo U.S. Navy

Seabees Ham Station Celebrates 1000th Message

Amateur Radio Station K6NCT, located at the U.S. Naval Construction Battalion Center, Port Hueneme California reached an important milestone in its good-will mission when its 1000th message was a conversation between Equipment Operator Second Class R.B. Thompson in Adak, Alaska and his wife in Port Hueneme.

The Seabee's ham station was commissioned just before Christmas of 1958 by Rear Admiral H.B. Jones, who was Commanding Officer of the Seabee Center at that time. Admiral Jones opened the station by talking with Rear Admiral W.B. Short Commander of the Pacific Construction Forces in Honolulu, Hawaii, K6NCT, the 'Home of the Pacific Seabees', has become a familiar sound through out the far reaches of the Pacific, extending from Alaska to the frozen wastes of Antarctica. The station is equipped with a Hallicrafter HT32 transmitter, HT33A linear amplifier and an SX101 receiver, all of which were installed in time to handle heavy holiday traffic.

Regular broadcasting schedules have been established with all deployed Construction Battalions and all late news of home is brought to them. On occasion husbands learn of special events, as was the case with Steelworker Second Class W.F. Body at Kodiak, Alaska and Builder Second Class Teddy Brown at Adak, Alaska who both learned that they

Continued on page 39

Handy Electronic Tool for phone plugs

Howard S. Pyle "YB" - W7OE

3434 74th Ave. S. E.
Mercer Island, Washington

How often have you experimenters who have frequent or even only occasional need to use the standard Western Electric or military 'surplus' type of phone plug, been frustrated to the 'cursing' point by trying to land the tiny screws which terminate the phone cord, in their proper seat?

These little screws, about an eighth of an inch long, have in addition to their screw-driver slot, a small central hole drilled through the slot and for the full length of the threaded portion. Have you ever wondered what it is for? It is purposely done by the manufacturer to facilitate insertion of the screw during production operations. A special tool, used by the factories, makes this easy. to purchase such a tool from them takes time, and incidentally, involves a rather considerable cash outlay, believe it or not!

If you have very many of these frustrating operations to contend with (and you will, if you're working with Hi-Fi, TV or ham radio), make yourself such a tool in fifteen minutes using a small scrap of galvanized iron sheet (about #18 gauge) and a half-inch length of #18 galvanized iron wire, from your 'junk box'! Brass or copper can be used as well, but if you have much of this to do, the iron will maintain it's shape much longer. The accompanying sketch and a few minutes time, is all you need.

Cut the handle portion---any size and shape which may appeal to you, from the flat sheet (mine took all of two square inches!). At the end opposite to the handle grip, make a saw kerf with a hacksaw blade to about 1/4 inch depth. Lay a half inch length of #18 galvanized iron wire in the slot, flat on the bench. Flow solder over the wire and slot; turn the piece over and repeat.

A bit of work with a small flat file and you'll have a screwdriver with a central, round protruding tip which will pass through the hole in the body of the screw, permitting the split blade to engage the slot in the screw on either side of the hole. Place the screw on the tool, using the wire to pass through the center hole and the divided blade to seat in the slot and you'll have no trouble at all in seating the screw and starting it in the threaded hole in the plug body.

If you have only occasional need to seat such screws, merely use a piece of #18 guage wire bent as shown in the accompanying sketch and you'll have no difficulty in starting these miniature screws.

Remember though, if you make up such a tool, it will be small and easily lost. Drill a small hole in the handle end of a size sufficient to pass a small brad; you can then hang it up and find it when you want it.

If you're really 'fussy', you can make a real neat job of such a tool by using a miniature key blank, obtainable at most hardware stores stores and filing it to proper shape. I don't have that kind of patience and preferred making my own after trying both methods!

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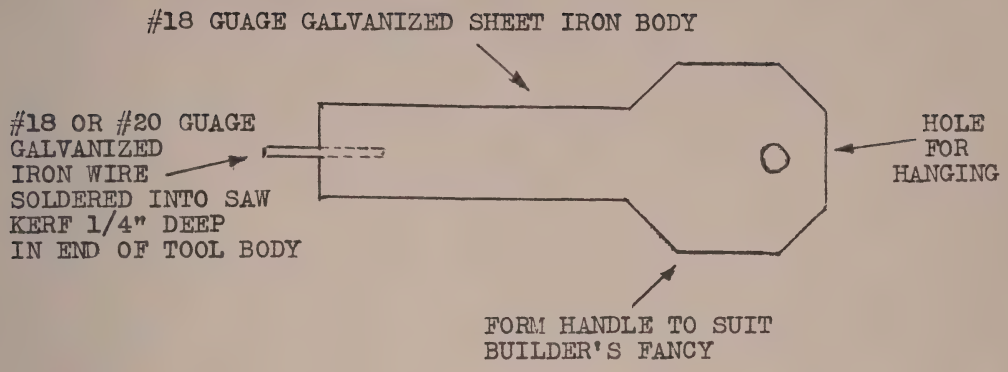
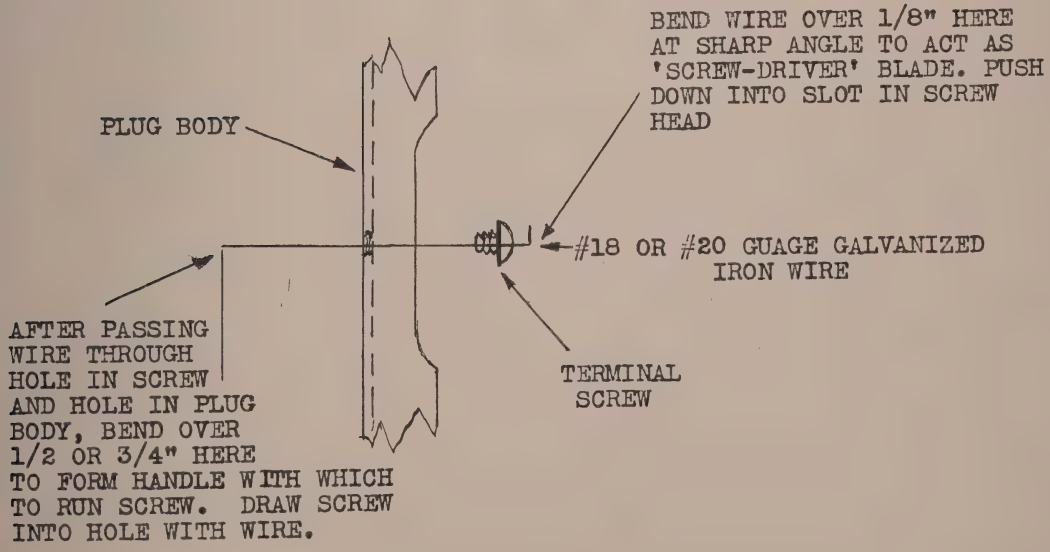

#18 GUAGE GALVANIZED SHEET IRON BODY
#18 OR #20 GUAGE GALVANIZED IRON WIRE SOLDERED INTO SAW KERF 1/4" DEEP IN END OF TOOL BODY
HOLE FOR HANGING
FORM HANDLE TO SUIT BUILDER'S FANCY

SIMPLE PERMANENT TOOL WHERE FREQUENT USE OF THESE PLUGS REQUIRES MORE THAN OCCASIONAL CHANGING OF TERMINAL CONNECTIONS.


BEND WIRE OVER 1/8" HERE AT SHARP ANGLE TO ACT AS 'SCREW-DRIVER' BLADE. PUSH DOWN INTO SLOT IN SCREW HEAD
PLUG BODY
#18 OR #20 GUAGE GALVANIZED IRON WIRE
TERMINAL SCREW
AFTER PASSING WIRE THROUGH HOLE IN SCREW AND HOLE IN PLUG BODY, BEND OVER 1/2 OR 3/4" HERE TO FORM HANDLE WITH WHICH TO RUN SCREW. DRAW SCREW INTO HOLE WITH WIRE.

WHERE ONLY OCCASIONAL NEED TO CHANGE INTERNAL CONNECTIONS IN PLUGS, SIMPLY BEND A SHORT LENGTH OF WIRE AS SHOWN.

Sidelights on Sideband

Lester A. Earnshaw, ZL1AAX
Box 51, Warkworth, New Zealand

DETECTORS for SSB and CW

What is the purpose of the product detector? Is it better than the conventional diode detector? What are the relative advantages and disadvantages of each? These are questions which must fill the minds of many and it is the purpose of this months column to try and answer these questions.

But first, let it be known that the name product detector is just a fancy name for another and better known detector, the converter or mixer. Our ordinary 6BE6 or 6BA7 is a product detector. A product detector is a mixer, it mixes the BFO with the IF signal and produces an intermediate frequency, our product, in this case is the audio. And just as there are many kinds of mixer circuits so are there many kinds of product detector circuits. In reverse, the ordinary diode detector may be used as a mixer and in fact is one of the better mixers up in the microwave region.

THE DIFFERENCE BETWEEN THE AM DIODE DETECTOR AND THE PRODUCT DETECTOR

Because of its rectification action the ordinary diode will recover audio from any modulated RF signal that is applied to it. If the IFs are tuned to 455 kcs and in an extreme case the selectivity of the IFs are such that a signal at 500 kc is allowed through and is applied to the diode, that signal will be detected. Only excellent selectivity will prevent the reproduction of un-wanted signals. The product detector on the other hand, should have no output when the BFO is turned off. Only signals which beat with the BFO are reproduced. Our 500 kc signal mentioned earlier, which, when beat with the 455 kc BFO will produce a beat note well above sound and will not be reproduced by the audio circuitry.

HOW MUCH BFO?

The diode detector is critical of the size of the BFO signal. If the BFO output is too small and the signal large the rf may overmodulate the carrier (BFO) we have provided. If the BFO output is too large the signal will be swamped and will give the effect of a kilowatt carrier modulated by 50 watts of audio. As a rule it is necessary to manipulate the RF gain control so that the signal is tailored in size to fit the carrier provided. Alternatively, a control may adjust the output of the BFO to suit the size of the signal.

With the product detector, once the correct voltage is initially set to suit the particular detector used, it is thereafter unnecessary to make adjustments of the BFO voltage. Whether the signal is large or small, short of actual overload of course, the BFO voltage may remain constant. The old drill of turning down the RF gain control,

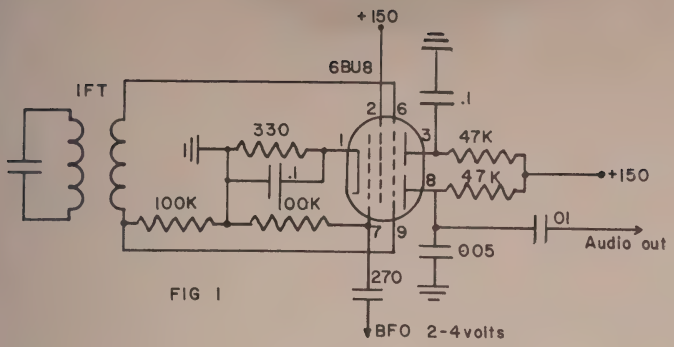


FIG 1

The 6BU8 makes an excellent product detector of the balanced type. It will handle a signal of more than 10 volts at the two grids 6 and 9. It has high output.

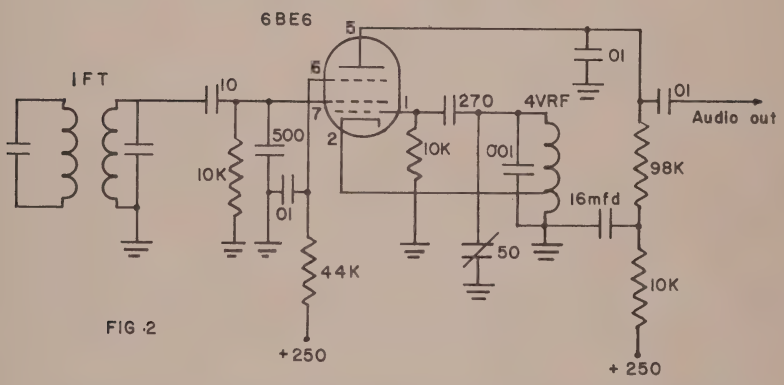


FIG 2

A self excited pentagrid converter type of product detector which really works. The cathode tap should be adjusted to give about 4 volts of rf at the injection grid. The high C to L ratio of the BFO tuned circuit prevents FM modulation of the BFO output and gives greater stability of the BFO.

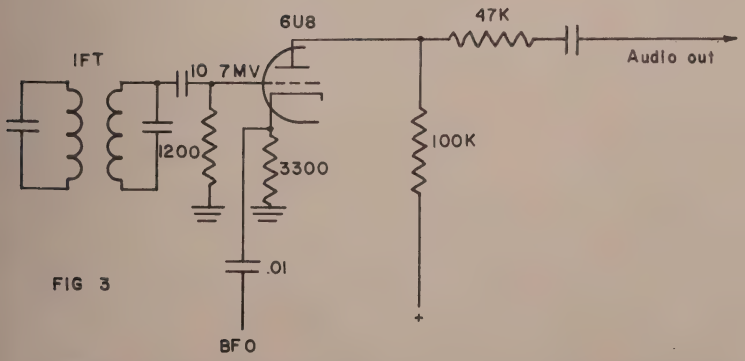


FIG 3

Nothing could be simpler than the Collins S Line BFO. Yet it really works as those who have heard this receiver will testify.

turning up the audio...may now be forgotten. The receiver itself must, of course, allow the passage of the signal without distortion. This is usually a matter of AGC characteristics and not really pertinent to the present discussion.

A BFO IN A HAYSTACK

Yes trying to decide which BFO to use is like trying to find the proverbial needle in the haystack. If though you have pre-knowledge, that is, you know that the needle is in the south east corner near the bottom, the task will be considerably easier. Similarly, if the relative merits of the various product detectors are known the task of selecting the right one will be made much easier, However, it must be admitted that in practice there are many which are so similar it is really a matter of tossing a coin to see which one of a type is the better for the job in hand.

Basically there are two kinds of product detector, the balanced and the unbalanced, The balanced detector, like the balanced modulator which it really is, balances out either the BFO voltage or the signal voltage or both, so that only the product of these two components appear in the output circuit.

The unbalanced kind depend on filters of one sort or other to remove the unwanted components. The pentagrid tube may be used as a product detector of this latter type. The 6BA7 mixer tube may be used as a product detector merely by replacing the IF transformer with an audio transformer and tuning the other circuits to the new frequencies.

WHICH IS BEST?

This is a difficult question to answer. Probably the former type, the balanced product detector, would be the better because they are less prone to intermodulation distortion and the generation of the intermodulation products we mentioned earlier. If the signal level is kept low the latter type also is excellent but there is no doubt about it, their input signal must be very low indeed to achieve a minimum of unwanted products.

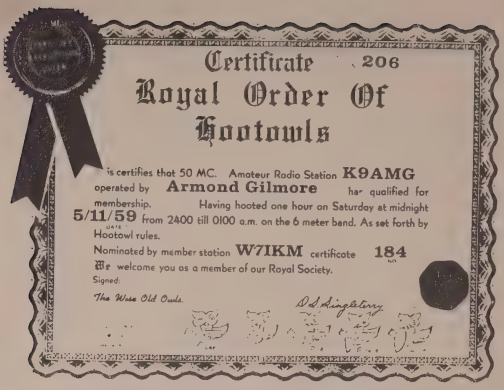
Of the balanced type product detectors, one of the best is that using twin pentagrid converters such as the 6BE6. The output of this detector is very high indeed and the intermodulation products very small. Unfortunately it is complex and this alone dooms it to virtual extinction. Donald Stoner, W6TNS, and the author described in CQ, 1959, a product detector built around the 6BU8 which was as good as, if not superior to the twin 6BE6's. The signal handling capabilities of this detector are very high. The output also is very high and it is often possible to eliminate an audio tube because of this fact.

Fig. 1 shows an even simpler version of the above detector in that it does away with the audio transformer in the output. This detector offers much for very little. It may be self excited or separately excited. Its special feature is its ability to handle a very large signal. The full output from the IF amplifier may be fed directly to the grids 6 and 9, no step down of the voltage being necessary. The modification to the circuit published in CQ was culled from literature put out by RCA covering the 7360 which is a tube especially made for balanced modulator and product detector service and which is very similar to the 6AR8 and the 6BU8.

THE DOUBLE AND TRIPLE TRIODE PRODUCT DETECTOR

The double and triple triode product detectors are well known to sideband enthusiasts and require little discussion here. They are both described in some detail in the ARRL and the CQ SSB Handbooks. The circuits are somewhat complex and the signal must be attenuated before being applied to the signal grid. They are very prone to overload and must be correctly installed and handled.

Continued on page 36


Certificate 206

Royal Order Of Hootowls

This certifies that 50 MC. Amateur Radio Station K9AMG operated by Armond Gilmore has qualified for membership. Having hooted one hour on Saturday at midnight 5/11/59 from 2400 till 0100 a.m. on the 6 meter band. As set forth by Hootowl rules.

Nominated by member station W7IKM certificate 184

We welcome you as a member of our Royal Society.

Signed:

The Wise Old Owls

D.D. Singletary

ROYAL ORDER OF HOOT OWLS

(Copyrighted 1955-W7YJE)

R.O.H.O. #1

Here we are into a new year. Hope everyone of you will have a 'Happy New Year'.

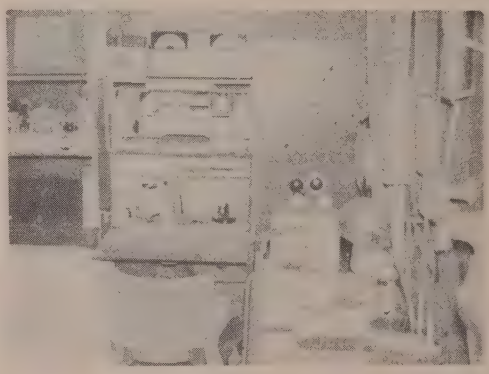
The Gold Seal Hootowl Achievement Awards have sure stirred more Inter City activity on 50 mc. Also old Hootowl number 206, Armond Gilmore K9AMG of Skookie Illinois has his 'Gold Seal' award as pictured. He's been in Kansas nominating new Hootowls.

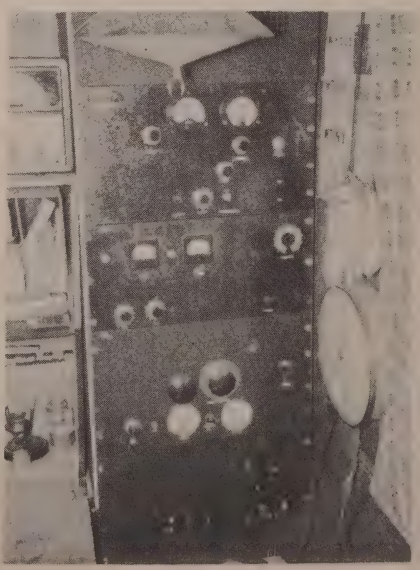
With no 50 mc DX in the Northwest, everyone still has high hopes and some new gear and antennas are on the air.

With Dave Axe W7AGJ Hootowl number 85 in Europe and writing from Vienna, Austria says there is plenty of 2 meter activity but not six. Also that the gear is way out of date. In fact Dave wrote that he has seen only one commercial built (Tapetone) converter for VHF work.

The station photo's are of K9JFN an XYL who is Hootowl number 167, and has her station set up in a railroad bunk car. Her OM is forman on the CB and 2 tracks running out of Chicago. Gelona writes to say

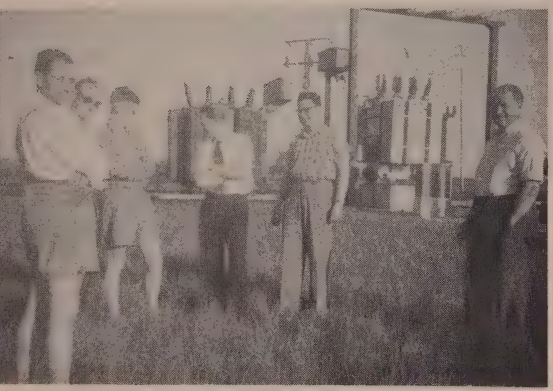
Continued on page 42





Neat and compact station of Gelona K9JFN in a railroad bunk car.

There are 3000 licensed amateurs in West Germany, and here are a few of them on field day on Mt. Einkorn.



Walter DL6UO shows local hams the transformers in his back yard. Left to right: DL6UO, DJ1BV, DL1HY, DL1LV and DL6LF.

Hanno on a mobile outing near Leonberg, Germany.

San Diego

E. H. Marriner, W6BLZ
528 Colima Street
La Jolla, California

IRC coupons--WAUGH! I don't blame the DX stations for not wanting them. Just happened to have a hand full of them in shillings, ore, lira, marks, franc, etc sent to me for WRA subscriptions. I took them down to the Post Office to have them cashed. The Postal Clerk gave me a nasty look and didn't quite know what to do with them and called over another clerk who called in another. The three of them started sorting out coupons on the desk and looking in the regulations book. Meanwhile the people standing in line back of me were getting more and more impatient. From this little experience, I decided 'SAX', W2SAW, had a good idea when he started his stamp service. Here you can buy stamps from all countries and send them to the fellows so that they don't have to fuss and fume getting IRC coupons cashed. Do these guys a favor, don't be like the ham who bought his wife corn on the cob, then hid her false teeth.

Bob Hopper, W6YXU, on Pt. Loma was browsing through an electronic journal. Upon seeing the new tunnel diode advertised, which requires about a tenth of the power to operate as a regular transistor said: 'This is just what every parent needs, a tunnel diode transmitter, powered from body heat, now they can put one in their kids pocket and keep track of them out in the yard to see what mischief they are up to at any instance. '

Zero Beat

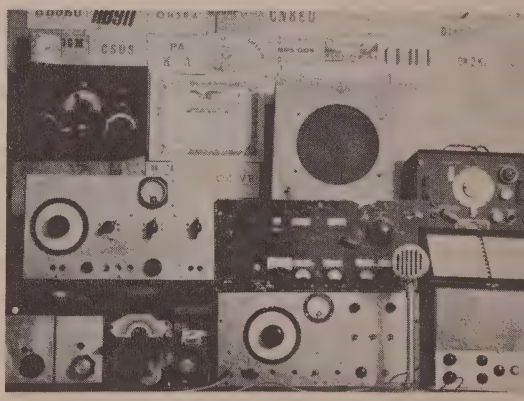
WA6CHV, Stan Rhea has moved to San Diego from New Mexico after attending school there. Stan is a pharmacist and put his way through fixing TV sets. Stan's counter part, W6CHV lives here in La Jolla and hopes the DX cards don't get mixed up.

The CREI alumni association really has grown and going right ahead meeting each month in Balboa Park. Ex-CREI men can now hear good technical talks and mingle with others in industry. For info call BE 2-8401, Mr. Garner.

Al Fischer, W6ZHH, tells me the Western Single Side Band Association convention was a real success in Santa Barbara. Al neglected to slip the program in the envelope so we can't tell you all that happened. W6ECP new V.P., and new directors, W6CGN, W6DVI and W6MUG. Attendance at the convention was from 7 western states. I'm sorry no one thought to take any pictures of the gang for our magazine. For info on the next one write to Box 568, San Pedro, Calif.

You can always tell when we are in a depression, it's when hams begin to wear their XMAS ties. Hanno Knorr, ex-DL1LV hopes one day to get his citizenship papers as a Christmas present so that he can get a W call. Right now Hanno is licensed XEØBKG and has to drive 150 miles to the border to get on the air and operate. He has sent me some pictures of DL land and I hope you will enjoy them.

Most ham clubs in Germany are local chapters of DARC. Here the Heilbronn chapter visits Schwaebisch Hall.



Station of DL1LV in Schwaebisch Hall, Germany. Commercial items: E-52 receiver, BC-221.

DL3BK Stuttgart Vaihingen, Germany Amateurs in Germany have no 75 or 6 meter bands. Maximum power input is 200 watts.

WHEN YOU PRESS THE KEY

YOUR SIGNAL IS IN SPACE

Harry R. Habig K8ANV
1700 SH Royer Rd.
Dayton 14, Ohio

This has nothing to do with Sun time, or local time, or any type of Standard U.S. time. When one records the TIME a key is pressed, that SPACE TIME is exactly the same all over this earth. This obviously dictates that every radio operator have exactly the same time as his brother operator. His location on this earth has no bearing upon this time.

Because of its very nature, radio communications are not confined to a unit of geography. Since there there are no appreciable time lapses in a radio signal travelling from one point to another (your signals make 7.75 revolutions per second around the earth), we can, for all practical purposes, say it's instantaneous.

When you refer to the time ANY signal was sent, it should be in universal time, because the operators in Hawaii, England, and Timbuktu hear you at the same instant. That universal time, an already accepted international time-keeping system, is Greenwich Mean Time, using the 24-hour clock starting at midnight in Greenwich, England, zero meridian.

The use of universal time, or GMT, by aircraft pilots and navigators, is a further obvious indication of the desirability of Universal Time. The advantages of using GMT in times of disaster, or even in periods of national peril, are obvious. To even note this seems trite, but it is felt a necessary statement to point up.

The use of Greenwich Mean Time should be made COMPULSORY for all communications operators!

If all radio operators on earth used 24-hour clocks, and all set their clocks with WWV's CW GMT time signal (sent every five minutes), every one of those clocks would read exactly the same.

It's really very simple. When you make a date with your neighbor to meet him at such and such a time after work, you meet on the dot. Why? Because both of you are using the same time. The same is true with radio operators using the same time, even though they are separated by half the earth. It's stupid to refer to a radio communication time in any LOCAL TIME, other than the boys living in Greenwich or along the Zero Meridian.

Think how simple logging, bookkeeping, schedule dates, contest time records, etc., would be, if all concerned used the same time system. Then why shouldn't ALL radio operators, magazines, and any and all references to the time of a radio communication be stated in GMT?

The pictorial depiction of clock dials should be sufficient for the operator to understand and apply the usage of Greenwich Mean Time.

If you are well heeled, just buy a 24-hour clock. Set it to WWV MCW GMT.

READ DIRECT

Clock is reading 0703 GMT. All other GMT clocks in the world are reading exactly the same.

If you can spare an old clock, add the number 13 under its 1, 14 under its 2 etc. Set it to WWV MCW GMT. Clock is reading 0703 GMT. You have lost its use for local time.

If you have only the one time piece make up a ring with the progressive 1 to 12 to 24 and fasten in place on the dial or on the glass face. Leave the local time on the clock, orientate the 24 hour insert dial to correspond with WWV MCW GMT. Clock is reading 0703 GMT and 203 EST.

the Diode Power Supply

E. H. Marriner, W6BLZ
528 Colima Stree
La Jolla, California

In the very near future, in our life time, I hope, diode rectifiers will replace tube rectifiers in our amateur transmitters. This will be a saving in transformer cost and size, because a bridge circuit can be used. This will reduce copper losses a function of ampere turns therefor less loss in the transformer. Rectifier tubes conduct a lot of heat into the chassis because of the large filament current, this would be eliminated. In fact if the transformer manufacturer would go along with us, they could build a transformer without the rectifier winding and center tap, bringing the cost of the power transformer down considerably for a low power transmitter. Perhaps some manufacturer will see the wisdom in this and start a new line of transformers.

For the Amateur, the best buys I know about right now, are the Sarkes-Tarzian F-4 and the G.E. 1N1695. The F-4 has a maximum peak inverse rating of 400 volts and a 280 v rms rating at 500 ma when 100 deg C is not exceeded. As the temperature increases the current capability goes down.

I expect the next question after all this buildup for the diode is, 'How many will it take?' Before I tell you, and you begin to squawk, remember that you are saving the price of two rectifier tubes, a filament transformer, tube sockets and will be able to use a transformer costing half the price, I say half as much for the transformer because instead of a 250 ma 1200 volt each side of c.t. you can use a 600 volt each side of c.t. at 250 ma and get the same voltage. One will cost a bout $25. against $10. for the other. I think if you add it all up the savings will just about pay for the rectifiers and the supply will be very much smaller.

Sarkes-Tarzian puts out a little book with some engineering information, lets look! In a single phase bridge circuit (fig 1), the maximum peak inverse voltage is equal to 1.57 x Ed-c (the output voltage). For a start lets approximate our d-c output at 850 volts d-c and see about how many diode we are going to need in each leg of a bridge circuit, taking into account the form factor, drops in

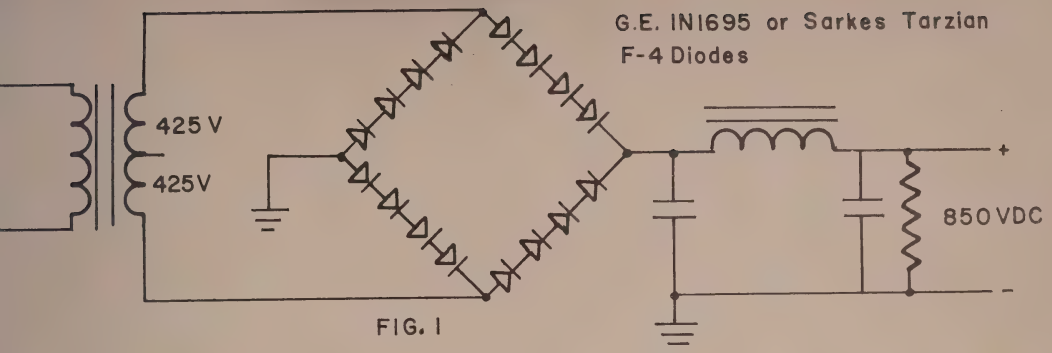


FIG. 1

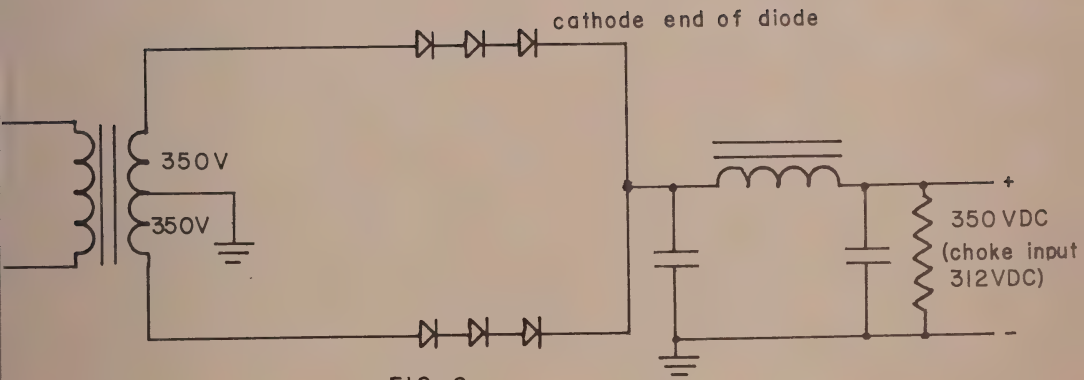


FIG. 2

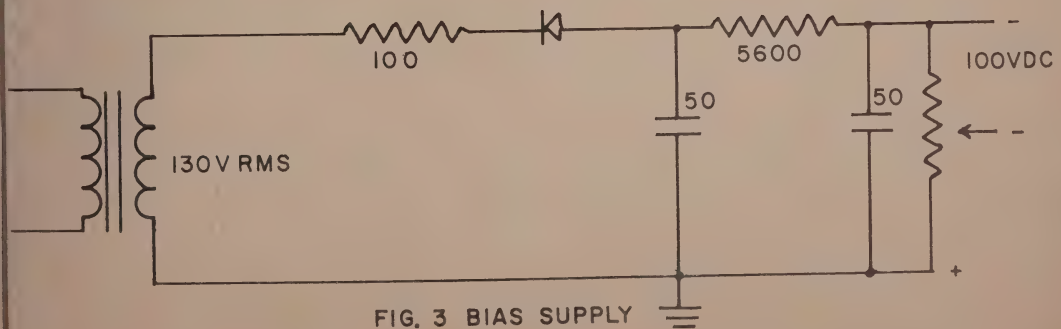


FIG. 3 BIAS SUPPLY

the diodes etc as given in the book. We will go into this more later but right now let's see what out peak inverse voltage will be. 1.57 x 850 gives us 128.5 volts peak to peak across each leg con. taining a series of diodes. There you see, if each F-4 diode has a maximum peak reading of 400 volts is going to take four in each leg of the bridge if we want a safety factor. So 4 x 400 gives us 1600 volts peak inverse voltage each leg will withstand.

Since we have determined that it will take four in each leg let's see where we stand. I hate to mention this but it will take 16 diodes total or four in each arm of the bridge. The actual output voltage can be found from this formula:

$$\text{Edc (output) equals } \frac{\text{Erms-KNV}}{\text{F}}$$

Well what does this mean?

K value will be 2 (This is the circuit constant for a one phase bridge circuit as given in the Sarkes-Tarzian book).

N value will be the number of rectifiers in each leg of the bridge. This will be 4.

V value 1.5 which is the voltage drop per rectifier at 80% rated load current. Also from the book.

F value Form factor 1.11 for a single phase bridge circuit from the book.

Working this out will show us what the actual D-C output of the supply will be.

$$850 - \frac{(2)(4)(1.5)}{1.11} \text{ or } 755 \text{ volts dc}$$

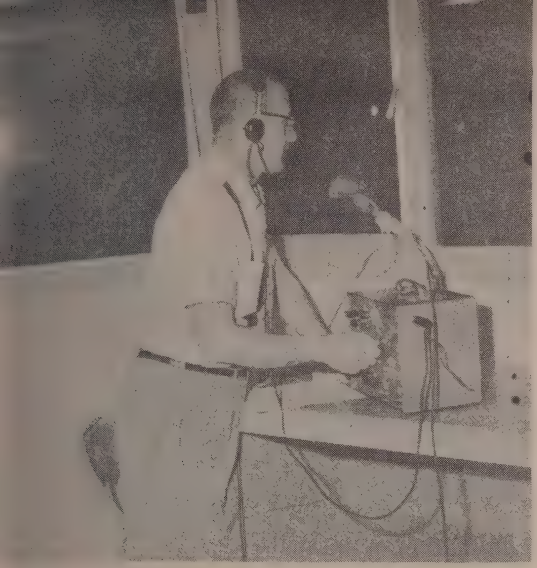
To back check 1.58 x 755 gives a 1185.35 volts as peak inverse. From this you can see if we had only used three diodes in each leg it might have been possible to get away with it if we kept the load resistor on, and used choke input. For safety it is better to add one to each leg of the bridge using four as we suggested.

One of the nice things about this bridge circuit is that you can use the center tap and come off to another choke and filter for your low voltage stages at half the bridge output if you desire. The copper losses go up and the transformer should be able to withstand the extra current drain. Please note that it is extremely important to place the diodes away from heat as the current rating goes down. Be very careful when you solder the pig tails on, use long nose pliers as a heat shunt to prevent the heat going into the rectifier.

Now lets consider the full wave center connection circuit for receiver power supplies. For an example using a 350-0-350 volt rms transformer how many diodes will it take. (fig 2)
The peak voltage will be 1.41 x 350 or 493.5 volts, lets call it 500. The peak inverse will be -500 to plus 500 or 1000 volts peak inverse voltage stress across the diodes. This tells us it will take 3 of the F-4 type as each has a rating of 400 v max pk inverse in each arm of the circuit or a total of six F-4 diodes. The full wave center tap circuit does not save you enough perhaps unless you need the space. A tube here is probably cheaper.

If it will save you a little thinking, here is a handy chart for bridge rectifiers.

Transformer voltage rms		Choke input	Capacity	each leg
325-0-325	@ 150 ma	586 dc	750 dc	3
425-0-425	@ 250 ma	755 dc	850 dc	4
600-0-600	@ 250 ma	1060	1250 dc	6



Bob Dailey W6UKC in the control tower at the Long Beach Marina.

Rosemary Dailey K6ACF in one of the patrol boats at the Salton Sea races.

PICON and Fun Too

Radio frequency allocations (and this includes our amateurs bands, too) are made according to the magic formula: PICON. We amateurs have been told this many times in the editorial columns of radio magazines, and by visiting speakers at our club meetings.

PICON, means, of course, Public Interest, Convenience or Necessity. It can include such things as emergency service in fire, flood or earthquake, or routine message handling. But it can mean such activity that groups such as the Rio Hondo Radio Club and the Golden State Net have sponsored over the past several years.

It all started a few years back when an association of speedboat racing participants asked the amateurs to provide communication from shore to the patrol boats which police the course where the races were held. A QST went out over the air, and a delegation of a half-dozen operators with Gonset Communicators showed up at the Marine Stadium in Long Beach. 110 vac was available at the judges' stand; a Gonset here became the Net Control Station. Six volt and 12 volt storage batteries were available, these powered the ' gooney birds ' placed in the patrol boats.

Quarter-wave whips were quite

adequate for the one to two-mile coverage needed.

Speedboats, both inboard and outboard, can and do reach speeds of more than a 100 mph in these races. Spills and collisions, while infrequent, can be very dangerous to other participants in the race, and warnings flashed by radio to all parts of the course can instantly alert the drivers to reduced speed until the course is cleared. Ambulances are directed to the closest landing, and relatives of the dunked driver can be immediately reassured that he's still in one piece.

Amateur radio communication has has been provided for races at the Marine Stadium in Long Beach, at Redondo Beach, Palmdale Reservoir, and at the Salton Sea. It's always exciting, and the view one gets while operating from a patrol boat, just a few dozen feet from the careening craft, is something you never forget.

Another type of public service, depicted on our cover, is furnishing radio communications for the annual Parade of Lights, at the Long Beach Marina. This year the parade, consisting of boats and towed barges, decorated with lights and carrying floats on Christmas themes numbered over 40 units. The parade was kept in pace by radio communications on two meters, with the following amateurs furnishing equipment or operating: K6ACF Rosemary Dailey, K6AHF Chuck Lindahl, W6AHY Tom Leeder, K6IRY Dr. Sam Walker, W6JRE Don Williamson, K6ZCZ Dr. A. Schiff, K6RTG Andy Crusen, K6LOR Bill Swensen, WV6HOA Walter V. Smith, K6YTO Jim Crocker, K6RDQ Ollie Langer, K6YKO Bob Beardsley, K6LFT Norm Sheldon, W6UPN Joe Provenza, K6BVG Jerry Kunz, W6UKC Bob Dailey, K6AYK Dave Qualls.

Friends are made for amateur radio in this manner and service of this nature does much to offset the poor public relations engendered by TVI (whether deserved or not).

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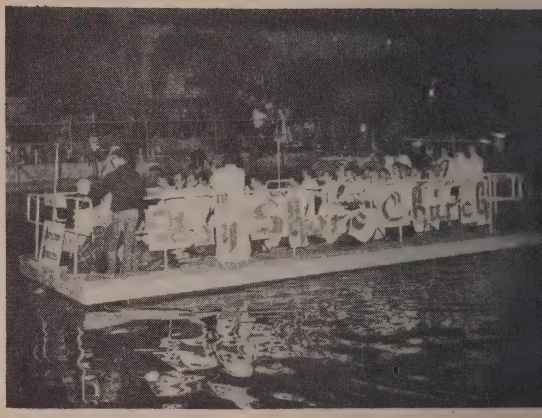
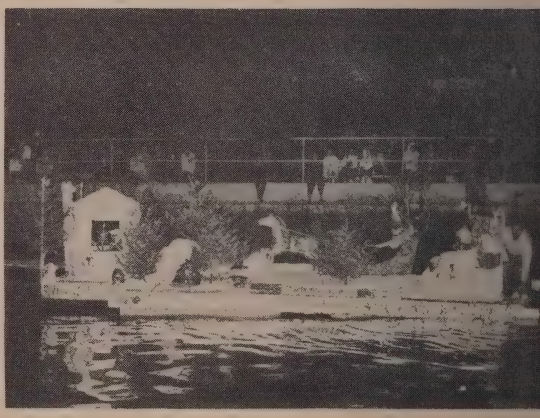
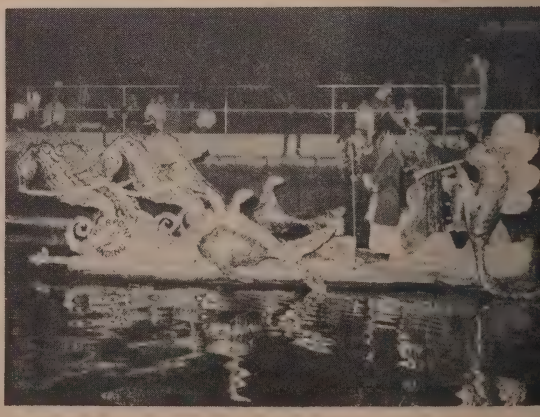






Three of the floats in the annual Parade of Lights at Long Beach Marina.

Random Radiation

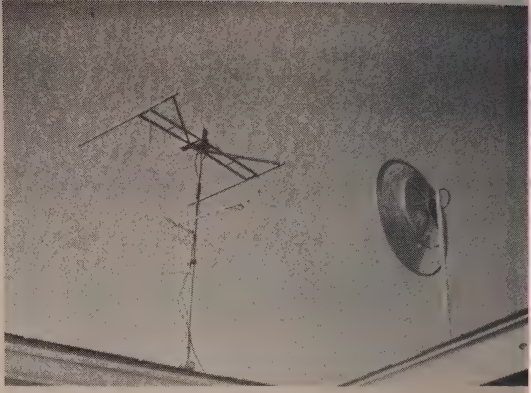
Howard S. Pyle "YB" - W7OE
3434 74th Ave. S. E.
Mercer Island, Washington

I've been surprised, pleased and touched by the many letters I have received asking me to continue my column in WRA. As I previously pointed out, I did not want to do so as a 'W7 NEWS' column as I felt that my ham activities were too confined to 'cw only' and 80 meters only, to permit broad, general over all news reporting for the W7's. There are any number of younger hams still in their 'eager beaver' years who would make far better 'news' reporters than me. To actually make a news column worth-while, it should include the entire range of ham activity in the area being reported. What Johnny Blokum is doing with his super-dooper dropped beam; the fact that Minnie Mouse made her WAS in 17 hours with a transistor transmitter consuming .02 watts; Gil Netter worked 9000 miles SSB from his Jaguar at 108 miles an hour. Stuff like that, plus notes on the personal side like, 'We understand Henny Peck is passing out crystal controlled cigars to celebrate the new harmonic; the XYL insisted on a phone patch to the hospital so that she could pass the good news to the Hair-Pin Net first-hand'.

What the boys want to know in a 'news' column is 'news'. Give 'em the low down on a particularly interesting club meeting you recently attended; tell 'em what went at the Field Day doings. Convention news, whether local, State or National is always news. See what I mean? You don't have to be a writer to compile and type the actual news; just put it down in your own words. If it needs any editing (generally it won't if you just think of it as a letter to a pal), the editor will take care of that little chore. Let's see someone come forward now and resurrect the 'W7 NEWS' column as such; I've 'bowed out'.

Henceforth my column, with it's new title, will be devoted to just that: 'RANDOM RADIATION'. In other words, I gather from the many letters received that even though WRA is devoted exclusively to ham radio it does not necessarily have to be 100% 'technical', a little light relief from theoretical discussion, practical construction, DX records and such apparently would be welcome. So, let's try it 'thataway' for awhile; just exactly what the title indicates, 'RANDOM RADIATION'. In fact, that should be right down my alley for most of the actual over-the-air radiation from W7OE is 'random' and how! 35 watts, on the air hit-or-miss as time permits, band-switch glued on 80 cw and most of the time no conventional antenna at all! Just whatever

Continued on page 43



Temporary radiators at W6BLK. Twin five for 2 meters, Long Yagi for 432, and a four foot dish for 1296. Incidently the box between the twin five is an 'L' band waveguide and probe, with which Red has worked 130 miles on 1296 mc.

VHF Record

Bob Cooper K6EDX
820 Tully Road Modesto, Calif.

ALA' K5IQL

To understand the full crux of a very unique problem currently being kicked around on six meters, it is necessary to operate six meters, and have more than passing enthusiasm in working DX (and earning the various awards possible such as WAS and WAC). The whole problem arose when our solid and staid 48 became 49 and then 50. Unfortunately for 50 mc men the legislative bodies of this great land mass didn' t take into consideration the time element and the sun spot cycle when they decided to make Alaska and Hawaii states. Alaska became a state just days prior to the last known F2 openings into that area. Which means that less than 'X' number of six meter men have Alaska as a state. Sure, everyone has it as a country...but not a state. Now take Hawaii. The land of coconuts and palms was made the 50th state in the middle of the summer 59 The six meter band was in it' s summer time Es descent and everyone on six was dreaming of working the KH6' s again and asking for QSL' s all over again. This fall the bottom fell from the MUF and someone also sliced off the top in fact the top ten mc...that portion which fell above 50 mc. Net result? Two very weak openings to the east coast, several equally weak openings to South America, and 3 exceedingly weak openings to Hawaii. To top it off the few stations active in Hawaii

All home brew, and the very best there is too! at W6BLK. The two converters at the left, twins for 432. Center bottom 5722 diode noise generator. Center top, 1296 twins. Lower right, 417A cascode converters. 220 gear on loan when the photo was taken.

during the three openings were usually saying something to the effect 'and QRZ frequency'! Only a few fellows managed to work the KH6's (except in LA where all 3 openings centered), and of those only two had also worked the KL7's after they became states. Net result, the first two (and we wager the only two ever issued!) 50 mc 50 state WAS awards. This also means that as no new WAS awards will be issued until one works all states (all 50 of them). There won't be any more. All of this because the Senators and Congressmen chose to make KH6 and KL7 states on the waning side of the sun spot cycle, of course we can always wait until the next cycle, if it's worth anything. And if there is a 50 mc band then. Or we could petition the ARRL to validate those contacts made with KH6 and KL7 before they became states as counting towards WAS. But then I am getting ahead of myself and into Frank Greene's (K5IQL) story. (following is quote from Frank.) 'I have started a campaign to question the ARRL ruling on KH6 and KL7 contacts for WAS. For most bands it makes very little difference either way. But I am sure you are aware what it does to six. As I told GIB(W6BJI) at Fresno there may not be a six merer band the next time the sun spot cycle peaks.

Here is the situation as I see it. I have cards from KH6UK and KL7AUV. Tommy and Jack both have mine. So what? So this. They each have New Mexico but I have neither Hawaii or Alaska! They don't have to start over, why should we? What is different about a contact with them now? I feel that we should have two more states than we had before, now that the territories are states. All they have to do is to turn around and work a local for one more state! (Unquote Frank Greene, K5IQL)

This whole dissertation was not printed with the idea of stirring up needless controversy, but rather as a case to point out how a handful of amateurs are determining the future of amateur radio for the rest of us! Do you honestly feel the Alaska and Hawaii situation is better left as it is, or would you, as an amateur of 1959, like to see the amateur 50 mc man of 1965 have the chance at his 50 mc WAS as you had yours? Talk it up on the air, and at club meetings. Most important of all speak to your ARRL representatives.

50 MC AND DX (?)

Few reports at hand can only mean one thing. Little DX to report. Sporadic E from California to Texas and New Mexico was noted on December 3 and 6, for short periods of time. W5VC worked W6OKR on the 6th, among others. Across the southern portion of the country E skip was very large on the 4th, 6th and 7th, with stations working as short as 500 miles at times on an intense E cloud over central Texas. The opening on the 4th also stretched as for north as New York and other states along the Atlantic sea coast. so far nothing of such consequence in the western USA. One F2 opening we westerners may have missed, November 28th. K5IQL worked several KP4's from Puerto Rico, and then the band very slowly shifted west through YV (Venezuela) with the 49.8 and 49.9 FM commercial two ways, to finally settle in Ecuador where HC1FS told K5IQL he couldn't give Frank a signal report because 'you have driven the S meter needle clear out of sight!'

TWO METERS

The Geminids Meteor Shower peaked on the 13th and 14th. Where were you? This is an evening-early morning shower and has proved to be very good in the past. WØQDH had a schedule with K5IQL among others.

AND HIGHER

This month we are proud to be able to tell a little bit of the story behind one of the most unusual groups in amateur radio. The 'Microwave Group' of San Diego. As As their letterhead states they are radio amateurs devoted to technical application of microwaves, which,

Continued on page 41

Pioneer Wireless

Howard Seefred W6EA
1631 Loma Crest
Glendale 5, Calif.

From the old Log Book of "KRK" Goodspeed Corpe, Wireless Boy Amateur of Santa Barbara, California---the following:

July 4, 1910 -Copy Jeffries-Johnson prize fight from PJ sent out to Navy ships at San Pedro.

Tues. July 19, 1910 -S.S. Santa Rosa has Wireless installed now call is GI.

Aug. 21, 1910 -Potter Hotel closing Station (United Wireless, call DF).

Sept. 11, 1910, Sunday -recd "Wireless Blue Book" (Those days we'd walk to the P.O. in Santa Barbara on Sundays and pick up mail).

Thurs. Oct. 20, 1910 -Talked to 'Q' at NPK in evening.

Wed. Nov. 9, 1910 -No monkeying with wireless tonite. Went to show to see fight films, Jeffries-Johnson.

Sun. Nov. 13, 1910 -Listened to 'ARK' (Art Greenwell) and GI talk.

Fri. Eve. Nov. 25, 1910 -Greenwell and I to see wireless set and operator on "Santa Rosa" at Stearns wharf.

Sun. A.M. Dec. 4, 1910 -We organized Wireless Association of Southern Calif. at Greenwell's shack. 6 of us.

Thurs. Dec. 8, 1910 -Greenwell and I went to see John Sabo and his wireless. He has one-half KW-E.I. Co. transformer and outfit.

Sat. Dec. 10, 1910 -Helped Duffy put up pole. Sold Gossy variometer I made a few days ago and sold him my fixed condenser made from tin shingles.

Dec. 31, 1910 and Jan 1, 1911-Greenwell and I had wireless station at Hope Ranch for Aviation meet.

Jan. 2, 1911 -Masson flew in to Potter Hotel from Hope Ranch. Other plane couldn't get off ground.

Jan. 14, 1911 -Went out to Cruiser South Dakota and with wireless opr. sailers all nite. Wireless with them and U.S.S. California, Maryland, etc. all time; 'ARK' also works them.

Sun. Mar. 26, 1911 -Greenwell, Wilson, and I up the beach on a cliff with tuning coil, aerial, phones, etc. Put aerial up in oak tree; heard lots, fine.

Tues. Eve. April 4, 1911 -9:50 P.M. Heard wireless telephone-'crazy' McCarthey in San Francisco.

Sun. June 11, 1911 -Still hearing wireless telephone occasionally in eves. Also TTY and other 500 cycle sparks coming in at times. (think all these were Jap and German Telefunken sets).

Fri. Nite, June 16, 1911 -Graduated, Santa Barbara High School; held at Potter Theatre on State St.

Sun. Sept. 17, 1911 -Greenwell and I on "Santa Rosa" left for S.F., Wilson and Donze to follow in few days.

Wed. Sept. 20, 1911 -Passed exam. at Mare Island and we got our wireless licenses!!! We started going to sea! My folks had moved from Santa Barbara to El Monte for good.

Commercial Wireless Work

First Ship Art Greenwell worked on was Union Oil Tanker Lansing -Call UD. Corpe on Tanker Santa Rosa. Maurice Wilson worked on Tanker Santa Maria, Call UM. Donze was first opr. on Lumber Schooner J.B. Statson, call SC. GI was only ship that docked at Santa Barbara. Came in on Friday A.M. on way from San Francisco to Redondo Beach. Stopped on Sunday nights on way back up North. When Greenwell and Corpe went over to Mare Island to get Commercial wireless licenses, they gave the code test over the air from NPH on Hill 3 miles away. Exam. was only 4 questions. Corpe still has old license he got in fall of 1911. Bob Donze and Wilson had station together on East Victoria Street in Santa Barbara and built transformers.

At PJ (United Wireless Station at San Pedro), Ed Lovejoy was chief opr. Worked day shift -8A.M. to 4P.M. -Kept books and made out reports. Cecil Parker or Bill Friend was on 4P.M. to midnight shift and Goodspeed Corpe was on midnight to 8A.M. in year of 1912. Operators worked 7 days a week every day, every week, and every month -never a day off unless the operators would work 16 hours straight through so one operator could get a day off. They had no insurance or paid vacations with United Wireless. Commercial stations worked last half hour of each hour and Navy the first half hour. Operators could rest half hour of each hour. Used to sleep at PJ and Morse opr. at Western Union on Spring Street in Los Angeles (Call was GS) call up couple minutes before time to start last half hour shift. Key at old PJ was like pump handle. It ran through table with

Continued on page 33

. . . WITH THE YOUNG LADIES

JEAN Kincheloe K6OQD
6625 N. Brightview Dr.
Glendora, Calif.

NEW CERTIFICATE

AWARD: Seldom Heard OM Certificate.
AWARD BY: Western Radio Amateur magazine.
ADDRESS: c/o Custodian, Jean M. Kincheloe, K6OQD, 6625 N. Brightview Dr. Glendora, Calif.
REQUIREMENTS: Contact with 25 licensed OMs who have XYLs who are licensed hams at the time of the contact. Contact must have been with OM using his own call NOT with XYL using her OM's call. Contacts must date on or after Jan. 1, 1960. Five states must be represented in these 25 contacts.
APPLICATION: Send list showing OM's and his XYL's calls; date, and time.
CHARGE: None.
COMMENT: Stickers will be given for each additional 25 contacts. Submit list as for original certificate.

Greetings to you all. Hope you had a Merry Christmas and have a Happy New Year. I'm not going to make any New Year's resolutions. It's a waste of time; I never seem to be able to keep them. However, I will venture a few predictions. Want to hear them? Well, here they are anyway. I predict that the same people will 1) Tune up and test right on top of a QSO. 2) Use the editorial 'we'; you know, the two-headed ops. 3) Say everything twice, like 'you have a booming signal in here OM. Yep, you really have a booming signal in here'. 4) Say 'hi hi' all the time whether what they have said was funny or not. 5) Say, for example, 'I thought I heard a CW station trying to break but I couldn't copy CW if I had to, hi hi'. 6) In the next breath number 5 will frequently come up with, 'I sent in for renewal of the old license today.' 7) Answer a 'CQ-DX' when they certainly are not DX. 8) Act like number 7 on a directional CQ. There you sit calling 'CQ West Djibouti' 'til you're out of breath and a station close by you comes back. He generally says, 'I just wondered if I was getting out OK.' 9) Number 8 is the type that will also break into a very busy traffic

Michelle F3YL

net and want signal reports. Personally, I think this is a sneaky way to try to get a lot of QSL cards in the shortest possible time. That's enough of the gruesome gremlins of the airways. Tell me, how many of these bits apply to you? I think one resolution we could all make is to try and be better hams in all ways.

Now to our flower garden.---Mary, W6MWU, had a baby girl on Dec. 21st timed just right for income tax exemption, huh? The new harmonic is named Patricia and weighed in at 4 lbs 12 ounces. Mother and baby are doing fine and Eddie's holding up pretty good too. Saw Leonore, W6NAZ, on the Donna Reed show the other night. You looked right fine, gal. Another gal gone Slip Slop Burp is Rosemary, W6PJF, who recently finished building a 10B SSB exciter. Her son, Neal, was home on leave for the holidays and got it all aligned for her. Incidentally after his leave, Neal is heading for St. Lawrence Island in the Bering Straits, Brrrr. Congratulations to Debbie on her new license, WA6EVU. She and OM Roy, W6YKF, have gone to Guam. A belated congratulations to Grace, KØMET, who became Mrs. K5KDN on October 10th. I hear that Joyce, K6QCL, is turning into quite a window decorator. Joyce and Esther, W6BDE, spent Dec. 5th, 6th and 7th at Squaw Valley getting in practice for the Communications Squad for the winter Olympics. You gals are to be congratulated, also all the other gals who will be up there with you; Gladys, W6DXI, Frances, K6SBL and Clare, K6QTO. Understand the gals are going to be well-supplied with 'longies'. I know Gladys has been borrowing them from all the gals in the LAYL club. She even tried to get my new fleece-lined monk's shoes away from me. Fortunately for me, her feets too big! The thanks of the LAYL Club go to Martha, W6QYL, who sent them an olive wood wood gavel which she brought back from Jerusalem. Martha is making A SWOOP Certificate block for the quilt the WRONE gals are raffling off for the YLRL Convention. The thanks of the LAYLRC also go to Dolly Goodwin, Mother of Billie, K6ANG, who was hostess for their Christmas Party. Congratulations to Mary, K6OWQ, on receiving her WAZ Certificate. Congratulations too, to Mary, W6LBO, who made one of her rare appearances at the LAYL Christmas Party. Mary had an all-expense trip by jet to New York City with OM, Brandy in November. She won a contest on home laundry newspaper feature layout. Since Mary has resigned her job as womans editor of the South Bay Daily Breeze we hope to see and hear more of her. Lory, W6WBH, received an early Christmas present from the OM, a crank-up tower, rotator, and tri-band beam. Now she doesn't have to climb up on the roof and shock the neighbors every time she wants to turn her beam. The horrible blow fell a few days before Christmas, however. She got called back to work so she can't check into the YL nets now but she hopes to be laid off again soon! Congratulations to Gil, K6IKF, who received two citations from the Navy this year; one from the Army; and the Atomic Gold Medal of Honor from the Marshall Proving Grounds; all for running phone patches. Welcome to Charlotte, WA2AVB/6, whom we all had the pleasure of meeting at the LAYL Christmas party. She says 'New York was never like this.' Just how do you mean that, Charlotte? Another gal with a new beam from Santa Claus is Pearl, W6ETQ, who found a Mosley TA33 under the tree. Congratulations to all the gals who won certificates in the YL-AP but special congratulations to Doris, K5BNQ, who won both the cup for top phone score and the Corcoran award for highest phone-cw combined score, and to Joyce, KØIKL, who won the cup for highest cw score. Of course you realize this means I will still have Harryette, W6QGX, following me around the band in the next YL-AP, hi!

Continued on page 48

Pioneer Wireless from page 30

tank of water below and contacts of key one inch in diameter made and broke in water to cut arcing. H.L. Bleakney was United Wireless man at EX, the Examiner newspaper station at fifth and Broadway in Los Angeles.

Harold Hayes, Ship Operator, quit United Wireless and started wireless school at Y.M.C.A. on Hope Street near Seventh in L.A. They had a 2 K.W. Marconi spark transmitter and receiver there.

George Baxter, Chief Operator at P H, San Francisco, would send messages 38 words per minute on land line phone with buzzer all night to Lawrence Malarin, Chief Telegrapher at 320 Market Street. Latter man ran the United Wireless School there.

PJ, San Pedro Station would finish message business at midnight in those days. Had old Edison phonograph with cylinder records and wooden horn. Nobody around, but one girl at phone office.An officer at the police station and one operator at wireless station. Phone girl would connect all three together and we would play the phonograph. Favorite tune was "Put your Arms Around me Honey, and Hold me Tight".

James Watmer, old wireless amateur, 'ZQ' of gardena, Calif. got interested in 1906. First sending set was Electro Importing Company one-half inch spark coil, Coherer, Electrolytic, and Iron Pyrites Detectors. Had 3 K.W. Spark later. Worked 25 miles.

Lee Roy Potter of Fullerton, Calif. started in 1910. Made receiver coil on round form out of redwood railroad tie, iron pyrites and silicon detectors, fixed condenser made with tea lead foil and single head phone from bell telephone co. sending set was Murdock one inch spark coil and bottles of salt water for condenser. Worked another boy, one mile away, who had same power. Used call 'RN' because it sounded like call 'FN' of Fullerton Telegraph office. Later had spark 6CR in 1916 & 1917. I worked PJ (San Pedro) on Monday, Aug. 19, 1912 at 4:40 P.M. (from old Log Book) Distance is 25 miles from Los Angeles. Power here was one quarter K.W. spark outfit. Used Clapp-Eastham (Boston Spark Key) at $5. in 1912.

Received word that old Spark Station 7YS of Lacey, Wash. since 1914 (Rev. Sebastian Ruth, teacher at St. Martin's College for young men) died in Jan. of 1958 at age nearly 83. His station copied ARRL test messages broadcast direct from spark station 6EA in 1920

ANTENNA SWITCH

BC-375 Antenna Switch. 5 position 3 section Isolantite. Good for bandswitch or antenna. 2 3/4 x 4 1/2" long. With pointer knob. Brand new boxed G. E. Heavy silver contacts 75c

TRANSMITTER CONTROL

C418C Xmtr. control. Complete w/10 tubes, dialing system. Brand new ..... Only $25.00
Less tubes 17.00

TRANSFORMERS

Collins, 200-230v 60cy 1400vct at 520ma 9.00
Collins, 208-230v 60cy. 940vct at 800ma 7.50
Collins, 220-240v 60cy. 2.5vct at 10amps 5.00
Collins, 220-240v 60cy. 5.0vct at 14.5amps 3.75
These xfmrs test from 2500 to 10,000 volts
Collins Audio Output xfmr. 2500 to 1250 ohms 15 watt 2.00
Chicago, 210-240v 50-60cy. 1250vct 500ma 8.00
Power Xfmr. 117v 60cy 2020vct, 200ma, 1920vct 50ma 12.00
Freed 210-220-230v 50.60cy. 900vct 500ma, 5vct 6 amps 7.50
Step up or down, 120-208v 60cy, 25amp 17.00
Bendix Xfmr. 185-225v pri. 115v sec at 1500va 12.00
Thordarson, 115v 60cy to 32v at 15 amps 4.00
Freed 105-125v 50-60 cy. 900vct or 1100vct 225ma 5.00
Fil xfmr. 210-240v pri. 5v 20a sec 5.00
ETCO 115v pri. Sec. 950vct 350ma, 6.3v 8a, 5v 6a. $5.00
Step down or up 0-172-245 in 6 steps 60cy to 115v 3.50
Isolation Trans. 115v 60cy, 115v out at 7½A Ship wt. 150 lbs. 9.25
Chicago 105-125v 50-400cy. 5vct 3a, 12.6vct 3a & 150 225ma 5.00
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Trans. 110v 60cy. Sec. 4800v 200ma no ct. 10.00
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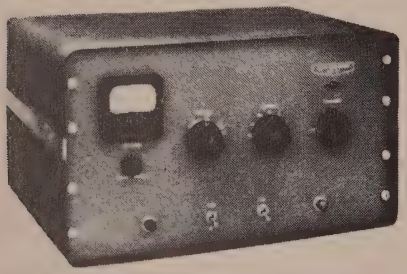
GSB 100

SSB 100W P.E.P. input. Transmitter/Exciter.

SSB transmitter/exciter, bandswitches 80-40-20-15-10 meters. Rated 100 watts P.E.P. Operates on SSB with selectable sidebands, also PM, AM and CW. Has pi network output. Uses quartz crystal notching filter to suppress carrier. Has stable, calibrated VFO, excellent VOX system, heavy-duty AC power supply.

499.50



GSB 101

SSB 1000W P.E.P. input RF Linear Amplifier

1000 watts P.E.P. input linear uses stable, efficient grounded-grid circuitry. Has pi network output, band-switches 80-40-20-15-10 meter bands. Supplies for power and bias and antenna relay are built in. Linear drives by GSB-100 or other equipment supplying 60-70 watts of driving power.

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Converter

from page 7

The two meter FCV-2 (for a 7- 11 mc. i.f.) has an oscillator operating on 137 mc. The amplified signal of a station on 144 mc would combine with this oscillator energy and the difference between the two would create a 'new' signal (identical to the original 144 mc.) on 7 mc. In the same manner, a signal on 148 would combine to produce a 'new' signal on 11 mc. It is these new signals that are detected with your communications receiver.

The Six meter FCV-2 (for 7- 11 mc i.f.) operates in an identical manner, but the frequencies are diferent. In this unit the oscillator functions on 43 mc. Thus, 50 mc stations BEAT with the crystal to form a difference frequency of 7 mc., and a 54 mc. station would would come out at 11 mc.

In effect the receiver acts like a variable intermediate frequency amplifier (i.f.). The choice of i.f. range is not an arbitrary one. Your receiver probably performs best on the lower frequencies. But if you select an i.f. range too low, interference from images (unwanted signals) will be a problem. The 7- 11 mc. range mentioned earlier is very popular and represents an excellent compromise between these two extremes.

****

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1 ☐ Sign me up for 3 years. $2.00 encl.
☐ Sign me up for 10 years. $5.00 encl.
2 ☐ Sign me up for_____years at $1.50 per year. _____total encl.
3 ☐ Ship me QSL Kit. $9.95 encl.

Call_____ Name_____
Address_____ Zone____
City_____ State_____

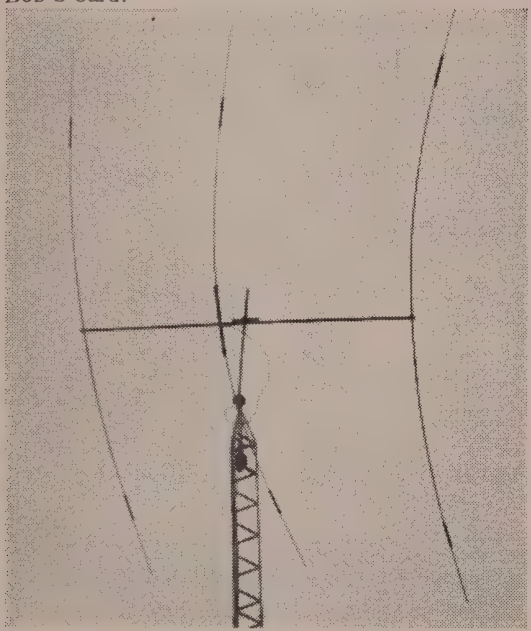
There's No Biz Like Ham Antenna Biz! . . .

Our apologies to Ethel Merman, Georgie Jessel, Tin Pan Alley, *et al*, but there is a striking similarity between their business and ours. We, too, get an occasional over-ripe cabbage tossed at us. (Like all good troupers, though, we don't duck because the produce thrower's aim is most always way off!)

But these gratuitous discourtesies are overwhelmed by the *kudos* that constantly come our way. Why they make working almost fun! Some days we go home positively glowing—and we haven't stopped off somewhere, either!

Like yesterday, for example . . .

Bob Hoffer, K9KKK, sent us a card and a snap-shot of his MOSLEY Trap Master Beam. Here's the snap and we quote *verbatim* from Bob's card:



Bob says, *"The picture was taken during a 50–60 mph wind hr. The beam suffered no damage. It works tremendously for me. The beam is at 70 feet. Make mine Mosley."*

Since Bob—in addition to obviously being a fine fellow—is crowding DXCC, has WAC Phone, WAS Phone and goodness knows what all, we think his opinion of our Trap Master Beam means a great deal.

That picture isn't to be sneezed at, either.

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"THE SURPLUS HANDBOOK"
VOLUME I
Receivers and Transceivers
AVAILABLE
at your
local distributor

Sideband from page 16

THE PENTRAGRID CONVERTER PRODUCT DETECTOR

Because of its simplicity this is one of the most popular product detectors. It may be self or separately excited and is capable of excellent performance providing care is taken to ascertain that the signal is kept small at the signal grid. 1 volt of signal should be considered maximum. When checking this detector the BFO should be detuned, not turned off, for the BFO voltage which is rectified by the injection grid determines the bias condition of the tube. Turning off the BFO will remove most or all the bias from the tube. This fact has been turned to advantage by the manufacturer of an SSB adaptor who turns off the BFO which in turn removes the bias from the tube enabling the grid to rectify---and copy AM!

Fig. 2 shows the figure of a typical pentagrid converter product

detector. Note the 50 to 1 capacitive step down at the input. Note also that the BFO tuned circuit is very high C necessary to prevent FM modulation of the BFO by the signal. The amount of RF feedback determined by the cathode tap is important for proper operation. The tap will normally be located about 1/3 rd of the way from the bottom of the coil which should give approximately 4 volts of RF at the grid with the circuit constants shown. Adequate decoupling of the plate circuit is necessary when the power for the detector is obtained from the receiver supply to prevent audio feedback or motorboating through the common power supply impedance.

Fig. 3 shows the circuit of the product detector used in Collins S Line receivers. Once again we have our mixer circuit, this time with the local oscillator, in this case the BFO, coupled into the cathode. Output is taken from the plate. The high value of cathode resistor biases the tube into the non-linear part of its curve so that efficient mixing may take place. Note that the signal applied to the grid is on 7 millivolts. Too large a signal here will turn the product detector into a diode rectifier, the grid and filament forming the diode, and the advantages of the product detector will mainly be lost.

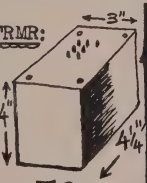
AN IMPORTANT CONSIDERATION

It is most important when using product detectors that no BFO voltage be allowed in the IF amplifiers. There should be no increase in AGC voltage or S meter reading when the BFO is turned on. If BFO voltage is allowed to enter the IF amplifier the AGC will operate and send a high negative voltage down the AGC line and bias off the various tubes, thus ruining the sensitivity of the receiver. Sometimes quite extensive shielding and bypassing of the BFO and its components are required to prevent this. Keep the BFO away from the IF amplifier itself and feed the RF to the product detector via co-ax cable.

*A HAM BIDS ON SURPLUS!

IN ORDER TO BRING UNPRECEDENTED BARGAINS IN GOVERNMENT ELECTRONIC SURPLUS PARTS AND MATERIALS TO THE AMATEUR FRATERNITY, W6DIE IS BIDDING DIRECTLY AT LOCAL S.C. DISPOSAL CENTERS AND ACQUIRING LARGE LOTS AT RIDICULOUSLY LOW PRICES....THIS SMALL ASSORTMENT OF ITEMS IS ONLY A FRACTIONAL SAMPLE OF THE STOCK ON HAND.....

6.3 VOLT FILAMENT XFRMR:



Heavy Duty potted filament xfrmr with two 6.3 V. secondaries and 115 V, 60 cycle primary, 1600 volt insulated. Case is black enamelled & welded steel. Circuit and specs on case.... 59¢ea. 2/$1.00
SHIPPING WT. 6 LBS. EA.

THESE PRICES ARE F.O.B.

NOTICE SHIPPING WT AND INCLUDE SUFFICIENT POSTAGE.

W 6 D I E,
833-7th Avenue
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Everything is UN-USED in original G.I. packing

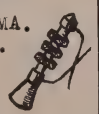
QTH

39¢ea. 3/$1.00

MINI-BATTERIES:

Actually rechargeable storage batteries, dry-charged lead type with directions and specs. Two voltages both same size shown... *SPECIFY 36V. or 6V...
SHIPPING WT. 6 OZ. EA.

TRANSMITTING R.F. CHOKE:



One millihenry, 300 MA. 10 ohm R.F. Choke... NATIONAL #R-300 U standard type item complte with stand-off porcelain insulator (6-32 thread) These do not look a bit like surplus! Better buy a dozen !!! 19¢ ea. 6/$1.00
SHIPPING WT. 2 OZ. EACH....

POLICY REGARDING FLYERS, PRICE LISTS, AND INQUIRIES: Operating with practically no overhead in order to keep prices down, we cannot promiscuously disperse lists and flyers nor answer all inquiries without untoward postal expense. Therefore we have established the non-profit SURPLUS OF THE MONTH CLUB... "Dues" of $1.00 per year defray postage and handling expense for the mailing of a different surplus item each and every month along with latest flyers and lists of the latest bargains.
You are invited to "join the club" which at this writing has a membership of over 60 hams and experimentors all over the country.

SIGNED: Dick W6DIE - "DEALER IN ELECTRONICS"

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2534 S. Michigan Ave.....CAlumet 5-4750
HOURS: Fridays 9 to 9, Other week Days 9 to 6.

Seabees from page 11

were new fathers shortly after the happy event. Others learned sadly of family deaths and sickness. Many times the contacts are humorous, in that when confronted with the mike some people become speechless and others can't be stopped.

Contacts are completed by dependents directly from the radio room or through phone patches to their homes. Most phone patches are to local areas, although some have been placed as far away as Boston and New York City.

The station is manned by military and civilian volunteers alike who spend much of their own free time helping make dependents happy. Civilians Fred Inniss, Camarillo and Frank Kozian, El Rio, are at present teaching an eight week course in radio code and theory designed to prepare personnel for the general and conditional class examination given by the Federal Communications Commission. Along with these classes they are preparing a new 20 week course devoted to code, theory and experiments that will be offered in the near future.

Mobile Construction Battalions Five, Ten and Eleven have their own equipment operating while Battalions Three and Nine are waiting to be equipped. Battalions Three and Nine were well represented in making the 1000 calls, however, as contact was made with them on Okinawa through the Third Marine Division Amateur Radio Station KR6DI.

Regular schedules have been established with the deployed battalions on Mondays, Wednesdays and Thursdays. Chief Warrant Officer Victor Young, CEC, USN, who is in charge of the station, along with Mr. Bert Raschke maintains the Monday and Wednesday schedule while Mr. Harold Stoner Camarillo and Steelworker Chief Fuller L Williams keep the Thursday schedule.

--Navy--

****

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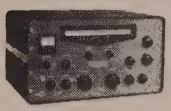
GSB-100 SSB TRANSMITTER/EXCITER



GSB-100 499.50

SSB transmitter/exciter, bandswitches 80-40-20-15-10 meters. Rated 100 watts P.E.P. Operates on SSB with selectable sidebands, also PM, AM and CW. Has pi network output. Uses quartz crystal notching filter to suppress carrier. Has stable VFO, excellent VOX, heavy-duty AC supply.

GSB-101 SSB LINEAR AMPLIFIER

GSB-101 459.50

1000 watts P.E.P., input linear uses stable, efficient grounded-grid circuitry. Has pi network output, switches 80-40-20-15-10 meter bands. Supplies for power and bias and antenna relay are built in. Linear drives by GSB-100 or other equipment that supplies 60-70 watts drive power.

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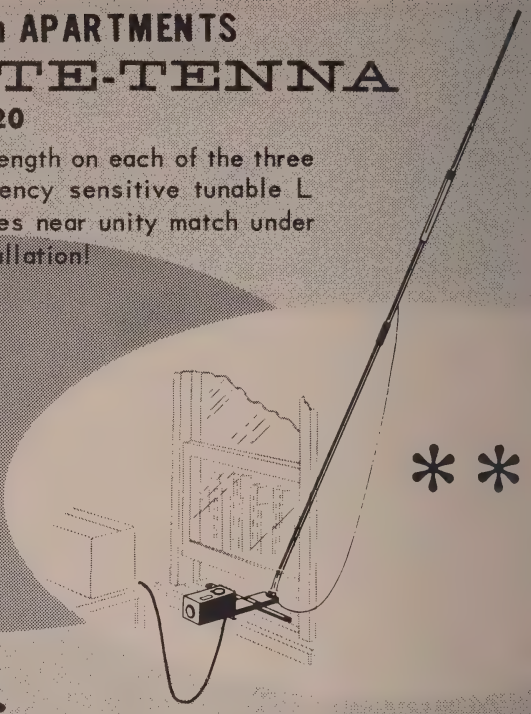

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VHF Record from page 29

although it sounds somewhat 'engineerish', can be downright practical, even from the ham standpoint. But to stzrt from the beginning. The letter writer in this case is is Red, W6BLK, one of the unusual innovations started by W6BLK is the 'Proto Type gear assembly plan'. Red builds up two of each piece of gear, whether it be converter, antenna, etc. One is for shack use, the second goes around the group, first for inspection and suggestions regarding improvement, then after slight modifications, it is available as a prototype for any and all who might want to duplicate the unit. This system has gotten 4 additional 'thinkers' on 432, and 3 to 1296 mc!

Activity wise in the south, W6BLK has worked 5 stations on 1296, all more than 100 miles. They are W6JRK and W6ZW in La Crescenta, W6DQJ in Rivera, W6MMU Los Angeles, and W6SSB Long Beach, all home stations incidently. On 432 mc one of the objects of the microwave group is carried out by having a station assigned to monitor 432.00 mc each night at 2000 PST. Thus there is someone available for receiver and transmitter checks every night, which has helped in the construction of gear.

In addition to the 2 fine photo's Red promises more information soon concerning the activities of the group in San Diego.

WATCH THE EVENING HOURS ON 50

From now until the first of February watch the hours 1600 to 2200 PST for signs of winter time E skip on six meters. There should be a fair session the last seven days of January if current cycles hold up, so circle that week for particular band watching to the east and north.

****

FOR YL or OM

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Announcement

Starting January 1st we will be open Monday and Friday evenings to 9:00.

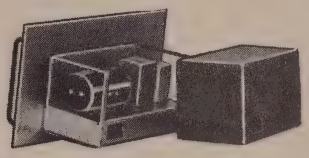
Just received a huge quantity of electronics All new, and must be sold.

TRANSCEIVER

SCR-522 Transceiver complete with tubes, and in good condition....$12.50

DYNAMOTOR

DM-34 Dynamotor, 12 volt for BC-603, BC-683. Used, good ..... Only 97c



6 VOLT DYNAMOTOR

6 volt Dynamotor, complete with filter assembly and mounted on a 19 inch rack panel. Dynamotor can be removed and used as is. Output 235 volts, 60 ma. Good for Command, BC-603 and other receivers. ....New $3.95

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TG-5 Telegraph set with key and bell. Wire two together for a code intercom. Comes equiped with headphone for listening to a real cw tone. Have someone send to you, or practice by yourself and sharpen your code reception. New with canvas case and book ..... Only $4.95

CITIZENS BAND RECEIVER

BC-603 Receiver. 20-27.9 mc. Equiped with 10 push buttons for selective channels. Continuous variable tuning over the entire range. Unit complete with tubes, built-in loud speaker, squelch circuit, head phone jack, schematic diagram on bottom of case Approx. wt. 34 lbs. Llke new.. $9.95

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TOpaz 1-3416 Jim W6CYM

Hoot Owls from page 17

that she has two main problems, and of course you might have guessed it, her OM hates ham radio and is an ardent 'one eyed' monster watcher. As you can see by the photos her station is very compact.

Remember gang, please help us by telling the stations you nominate that they must also write in, enclosing all information as required by Hootowl rules.

We have many member station confirmations awaiting request for membership from stations that have qualified but have not followed the rules.

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BC-906 150 to 234 MC $7.95

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2 inch CR tube with magnifier. Observe info 1/4 microsecond to 30M microsecond, sine wave from 30cy to 1mc $69.50

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115vdc reversible. Will run on ac, 6000rpm. 3.95

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Crystal controlled 90 to 1600kc, 1.6 144mc Special 39.95

HEADSET

HS-30 Low impedance headsets ..... .99

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Random Radiatiation from 27

hunk of metal happens to be within reach of my lead-in (I don't use a 'feeder' as you younger squirts call them); an old hunk of wire from the transmitter just hangs outside the shack window and I clip it on anything handy when I want to play! And I don't have any antenna tuner nor have I ever had trouble with TVI! Sumpin' you can think about maybe! Signal reports too are about the same whether I clip the lead-in on to a convenient grounded down-spout or to a guy wire holding a tin extension to the kitchen chimney!

That's as technical as I'm going to get! You guys and gals with the fancy rotary beams, twin-jet antenna tuners, enough watts input to blink all the lights in the neighborhood, have your fun.

Oh sure; there WAS a time when this old codger thrilled to a 'DX' contact. Like the night I worked Cleveland, Ohio from Cincinnati; must have been nearly 200 miles and I was using only a quarter kilowatt spark on 180 meters! Went around for days with my head in the clouds! And the thrill of hearing the Seefred Bros.; 6EA in California all the way back in Ohio! Oh, boy! Some weeks later I even managed to work 'em...two or three times! I still remember the delicious thrills which ran up and down my spine like a window shade when I heard their faint signal calling 8DAG!

If you're interested in the 'old-time' angles incidentally, see my story on page 62 of Electronics World for November 1959 on 'Restoring Old-Time Wireless Gear'. Also, page 60 of January 1960 Electronics Illustrated will give you a lot of high-lights on the ham and his troubles with broadcast listeners etc., back in the good old days. And, if you want the dope on early day antennas, try my blurb on page 58 of January 1960 'CQ'.

With that my friends, this column is inaugurated. I will no longer have to beg fruitlessly for 'news' from W7's; just 'radiate at random' in this column. Whether I keep it the way you want it or not is up to you...you're the judges. You don't like it, tell me; if you don't speak up you'll either have to read it or skip it! I'm making this first submission short; I've spent the last few months bouncing in and out of Doctor's offices and Hospitals and am still on the 'restricted activity' list, so better I do like the men say. Old fashioned bacterial pneumonia followed by suspicion of lung cancer kinda curtailed my 'git up and go' for awhile but finally got a clean bill of health and beginning to pick up the loose ends again. I owe letters to a lot of you guys and gals; you'll get 'em as my human induction motor picks up speed again! Meanwhile, many, many thanks for the deluge of wonderful Christmas cards. S' long and 73 for this time.

****

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FOR SALE: GG 6AG7 amplifier described in Nov. CQ $25. Ten meter version $20. Vacation Portable no pwr sup. $25. W6BLZ, 528 Colima St. La Jolla, Calif.

FOR SALE: Collins 75A1 with 3 kc. mechanical filter original owner, excellent condition $285. cash. Marv Gonsior, W6VFR, 418 El Adobe Pl. Fullerton. Tel. MA 9-5211, ext. 3367 days TR 1-3607 eves.

FOR SALE: SX-100 like new $165; BC221 freq meter w/ac supply and original calibration book $45; WRL 30' self supporting tower $25. Advance 115v ac coax antenna relay $8. Call Bob, K6QXK CItrus 3-1425.

FREE FLYER MONTHLY: Electronic Surplus for Experimenters. Kurtz, 702 E. Bay Staten Island 4, N.Y.

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FOR SALE OR TRADE: Hallicrafters SX-100 and speaker. CASH or swap for good mobile receiver. KE-93, G66B, ect. K6YTL, Covina, ED 9-6717.

Amateur call letters engraved on laminated phenolic. White letters on either black, red, green, walnut or mahogany. 2" x 8" for $1.00 each, postpaid. Specify color. Send order to W6BRY, Don A. Mathews, P.O. Box 761, Paso Robles.

.001 % L.M. freq. meter-mint cond. Under 50 hours use. Shockmount-modulation-calibration book-builtin power supply $75. R.H. Akin, 2285 Meadow Lark San Diego 11, Calif.

WANTED-FER CASH: One 40 meter beam and one 10-15-20 Tri Band beam, Box 401 Scotia, Calif.

WANTED: Old radio and wireless sets and parts. 1928 or before. Crystal detectors, crystal sets, tubes, tuning units, parts, old battery receivers catalogues, magazines, books. All letters answered. Will pay cash or trade. Harold S. Greenwood, 2341 Ivyland Ave. Arcadia, Calif. DOuglas 7-7217.

ENTER "THE MONITOR'S" VHF Contest--up to $500. cash value receiver given. Details & sample copy on request. 2902 Nicholson Dr. Dallas, Texas.

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NEED A REAL MAN: I need some average Joe who is not afraid to excel, who has been loafing his life away, spending his money amously, waiting to be trapped by some woman. I need somebody who is not afraid to work or give of his time, to come in with me on a venture which I have been preparing for over three years, that is to set up a laboratory in an isolated area, and conduct experiments in radio astronomy, propogation and moon bounce etc. If you are an average mouse there is no sense in calling, but if you are a man and sick of the breaks you are getting, and would like more information. Call LU 5-1764 or write Joe R. Parr, K6DSY, 4711 E. 56th St., Maywood, Calif.

QSL's--Box 5938, Kansas City 11, Missouri. 25 useable samples 25¢.

QSL's-SWL's, samples 10¢. Malgo Press, 1937 Glendale Ave. Toledo 14, Ohio.

QSL's, SWL's, Citizens Band. Novice special one color $2.95 per 100. Nicholas & Son Printery. P.O. Box 11184, Phoenix, Arizona.

QSL data on a RUBBER STAMP. Send picture post cards of your community when QSL.. Victor Rubber Stamp Company. 1510 S. Myrtle Ave., Monrovia, Calif. ELliott 8-2566.

QSLs: Double or single call cards. $5. per 300. Samples 25¢. 1331 Westmoreland Ave., Los Angeles 6, Calif. DU 7-5971. K6VDL-PRINT.

QSL's, send 25¢ (refundable) for Samples, W6CMN, 6707 Beck Ave., North Hollywood, Calif.

FOR SALE: Magazine subscriptions, QST-$4.00; CQ-$5.00; Western Radio Amateur $2.00. Or any magazine you can think of Playboy, Esquire, Life, Sat. Evening Post, Time. Write for prices or phone-Gene Silvey, W6COZ at NA 2-0542. 885 Collingwood Dr. Pomona, Calif.

T.N.T. SUBSCRIPTION SERVICE, 1451 Raymond Ave. Glendale 1, Calif. I handle all popular and ham magazines, new or renewals. Terry N. Tatum, W6LKJ.

HANDLING TRAFFIC? Two bucks brings you the Pacific Area Net News for one year. Vic Gish, W7FIX, 511 East 71st. Street Seattle 15, Washington.

FOR SALE: 250 watt out commercial modulator class B plus power supply plus tubes 811's and 866's. Plate transformer has 1160-0-1160 and 115-0-115 center tap 60 cycles 510 mils. Rack mounted stand 19 inch black crackle finish. Access thru front and back. Metered input and output $75. SX28 receiver $45. 6 meter converter 3 tubes plus crystal $20. 1000-826 tubes brand new boxed $1. each. BC312 receiver with RA20 power pack and speaker $65. Excellent condition. 30 foot self supporting tower used, in good condition $15. 2 power supplies in one, can be used for two receivers or low power transmitter 205v at 80 mils filament 2.9 amps 115 volt cycle $15. OAP wave meter and oscillator for 150 to 230 mc with instruction book and cable. 115v 60 cycle power supply as is $20. Power supply 900-0-900 at 270 mils plus 6 or 12v filaments 115v 60 cycle also metered $25. 10% of this sale goes to Tri County Amateur Radio Club Inc. Contact R.O. Douglas WA6DRL NAtional 9-8629 or 50.2 mc or 694 Mayfair Ave., Pomona.

FOR SALE: Viking Adventurer, Johnson low pass filter, Bug and key. Heath grid dipper. Heath Q multiplier. Coax and other small parts. Rotor with lead cable and control head. 32 cal rim fire single shot rifle, relic, $25. 7mm mauzer deer rifle excellent condition light weight, $55. 1 hp seaking outboard only weighs 16 pounds $35. Want Heath SB-10. W6LIL Al Myers, 9189 Elm Ave., Orangevale, Calif. Sacramento area. YUkon 8-0801.

FOR SALE: Gonset Commander II mobile transmitter 6 meters thru 160 meters 50 watts less VFO $50. Hammarlund HQ 170 with clock, like new $275. Call evenings. GIlbert 3-4643, 4582 La Madera, El Monte. Bob Fuller, W6KHK.

FOR LEASE: 1 year, 5 rooms furnished. 70 foot tower, wired 220, fenced. Adults. Bachelors acceptable $150. per month. Available March 1st. W6NZP, 3846 Linden Ave. Long Beach. HEmlock 7-6641. 9 to 5.

FOR SALE: Drake receiver $249, 6AG7 GG 40 meter linear Nov CQ $25. Same for 10 meters $20. Vacation rig 40 meters no power supply described WRA Jan '59 $25. CW break in VFO described in Nov CQ $40. W6BLZ, 528 Colima St., La Jolla Calif.

BLACK WIDOW DELUXE: 6 meter transmitter-receiver (6146 final) complete with 80 watt mobile power supply ready to install in car $149. EDgewood 5-7010 or 512 Parker Dr. Apt 5, Glendora, Calif.

FOR SALE: New 40 watt mobile phone transmitter, complete with power supply for 6 or 12 volts DC $65. for 10 meter band as is, can be converted in minutes to 6-15 or 20 meters. POplar 9-3096, THornwall 8-0938 eves or week ends.

CITIZENS BAND: 2 way radio system information. EDgewood 1-7317 or write to P.O. Box 837, Azusa, Calif.

CHRISTIAN HAMS ATTENTION: Ham gospel tracts "Your Best Contact", Gospel QSL card samples. Join Christian Non Profit Ham Club (Details free on request). "Ham's for Christ", P.O. Box 218, Holland, Michigan.

FOR SALE: Hallicrafters SX-99 receiver and R46B matching speaker both for $125. Globe Scout 680A $75. Other misc. gear. Ray Abraham, 601 N. El Molino, Pasadena. SYcamore 5-7643.

LEAVING HAM RADIO: All equipment must be sold at sacrifice. Call PArkview 1-0074. Example: Push pull parallel 8005's. Class AB2 sideband final, chassis 24x18x3. 2 Weston meters on panel, token price $75. 604 Victoria Ave. Montebello, Calif.

FOR SALE: Eldico SSB-100 Transmitter/exiter with new AX 9903 PA tube 100 watt P.E.P. output. Good condition. $325. Collins 32V2 transmitter/exiter excellent condition $325. 75 M. mobile transmitter, complete, 300 watts input full 100% modulation over mod. limiting 3 kc filtering 12 vdc power supply, built to commercial standards $145. Richard Wilde, K6OHJ, 3671 23rd. St. S.F. MI 7-4630.

TUBE COLLECTORS ATTENTION: Old tubes bought, sold, traded. Need 201A, 202, 210, 204A, 212D. List your inventory and needs with W6ANN. San Pedro, Calif

SALE OR TRADE: New BC-221 w/ac supply $60. New parts for QST 1 KW xmtr and power supply $90. Bandmaster TBS-50D $40. HRO-7 rec. spk, 5 coils very clean $175. BC-191 xmtr $25. Want Jones Micro Match. Davis. 19227 Lemay St. Reseda, Calif. DI 2-0076.

FOR SALE: Vacation 40 meter portable 2E26 as described in WRA Jan 59 without pwr sup $20. 6AG7's linear described Nov CQ $25. Ten meter version $20. W6BLZ, Ed. 528 Colima St, La Jolla, Calif.

FOR SALE: BC-603 conversion data. Dual conversion receiver, band spread tuning, crystal calibrated receiver dial, push button tuning, plus built in Citizens band transmitter, makes excellent 10 tube transciever. Plans include original schematic plus conversion schematic and layout drawings with alignment procedure. Send $3. to E.L. Thomas, 11W1685. 1238 N. Raymond Ave. Fullerton, Calif.

FOR SALE: Five 304TL's $20. each. 4-250A $22.50. Coax ant relay 110vac $7.50. Vacuum ant relay 28vdc $15. 5 amp variac $10. LM frequency meter $50. KW final in six foot cabinet, with variac control 2500 volt 500 ma power supply $200. G. Legel, K7BWH, 4332 E. Holmes, Tucson, Arizona.

FOR SALE: Best buy of the year. Almost new Hallicrafter SX-101 and speaker $235. Also Johnson Viking Ranger transmitter $175. Key, antenna, etc. $15. Richard Halmos, K6OCW, 17050 Magnolia, Encino, Calif. ST 4-0174.

VHF JOURNAL: Columns on 50mc and above by K4PEV, LU3DCA, W2AZL, KH6UK, KL7AUV, and many more! World's only VHF magazine, published monthly. Send $1.00. for six big issues. "QSO" 67 Russell, Rahway, N.J.

WANTED: Radiola one Antique radio; also Kennedy, Atwater-Kent, Grebe, RCA battery sets, early wireless gear, magazines prior 1925, old tubes, parts etc. Will pay cash or swap other antique sets. Have Westinghouse RADA for sale. Paul Giganti, W6GVY, 2429 San Carlos Ave. San Carlos, Calif.

WANTED: One pair Two Meter Walkie-Talkies. URC-4, TBY, PRC, etc. Write or telephone: Pete, WV6HXM, 1201 Tower Grove Drive, Beverly Hills, Calif. CRestview 1-4280.

BARGAIN: Collins 32V-3 Transmitter. Perfect with complete extra set new tubes plus Collins low pass RF filter. $350. (no trades). J. Knight, Mount Wilson, Calif.

Immaculate 75A4 for sale. Must dispose of. Best offer takes. WEbster 6-3274.

S-38E receiver, Globe Chief transmitter. Like new. Best offer takes them. R. Gordon. 5920 Colbath, Van Nuys. STate 2-1866.

SELLING OUT: DX-100 $150. Temco KW $500. 80 foot crank up tower $95. 20 meter Mosley beam $15. New SX-101 $350. Speech clipper-make offer. 11128 Culver Blvd. K6GMJ, Culver City VE 9-5946.

NEEDED: Radio Handbook 14th edition printed by Editors and Engineers of Summerland Calif. Also MB 150 tuner, Johnson KW matchbox. Send asking price with first letter to Angel M. Zaragoza W6ZPR. 1356 Olive St. San Bernardino, Calif.

FOR SALE: SX28 receiver $75. Transmitter Viking I $80. K6BUJ/6, 9476 Grossmont, La Mesa, Calif. HO 3-9121.

Professional counseling service for problems in ham and commercial radio. Schematics furnished, low rates. Monarach Engineering, 3058 Lehman, Hamtramck, Michigan.

FOR SALE: Hallicrafters SX-71 in good condition. $150. fob. Rick Gould. K6AGJ, 181 S. Castanya Way, Menlo Park, Calif.

TRADE: Auricon Cine Voice 16mm sound movie camera turret lens model with amplifier and case for Johnson Five Hundred or Thunderbolt. J.W. Harwood, W6DIZ, 3748 Floresta Way, Los Angeles 43, Calif. AXminister 4-7221.

FOR SALE OR TRADE: Stancor 202cw transmitter 200 watt all band $50. Gonset Super Six converter $30. Amsco 25 watt public address amplifier $35. Old tube tester. Pulse generator. Trade for DX-40, receiver or what have you? W6LJF GI 8-4793, 1105 E. Liscomb, El Monte, Calif.

FOR SALE: Power transformer 220/110 input 6600/5400/ct. at 750 ma. $35., Choke 750 ma 10 hy $10. Capacitor 15 mfd. 3 kv $10. B&W model 850A $25. Vacuum variable capacitor 5-400 uufd. 10 kv. $30. Karl Stoy, EMpire 1-7042.

FREE BULLETIN: Transistor dollar days. Texas Instruments 2N1380, $1. power transistor $1. Diodes-two for $1. IRC Silicon Rectifier Handbook $1.50. Basic theory and applications of transistors $2. Transistor audio transformers (driver & output) $1.50 each, $2.50 as matched set, printed circuit boards (converter, keyer, grid dipper, transmitter and many others. Write for complete list. Semiconductors 'n' Stuff, P.O. Box 288, Alta Loma, Calif.

FOR SALE: Johnson Matchbox $30. 3 element 10m Hy-Gain beam with coax $15. 3 element home built G4ZU tribander from CQ March '57, $20. 30 foot telescoping mast $5. Knight capacitor checker $5. Pair 3975 250w baluns $3. ARRL world map $1. 100 ft. insulated 300-450 ohm ladder line $2.50. K6OZO, Los Angeles. WE 4-8469 or WE 9-5114.

Collins 30 K I and 310 B exciter, bandswitching 80-10 meters-375 watts AM 500 cw with relay and low pass $495. Call Fred at TR 4-4342.

FOR SALE: Complete station, KWS-1 xmtr, 75A4 receiver with speaker, excellent condition, will sell package for $1750 cash, or will sell separately. Lew, RI 9-7471.

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FOR SALE: Pair Walkie Talkie transceiver, 3885 kc $60. Eimac 4-1000A tube $30. Two Eimac 4-400A tubes $20. each. W6OES. EMpire 1-7042.

FANTASTIC DEAL: Clean SX-101 Mark III, no conversions, priced at $275. for a quick cash sale. Call Raymond 3-8611 and ask for Will Connelly, W6QID.

FOR SALE: Hallicrafters S40B $55; Hallicrafters S-meter in metal case $5. xtals; 5284, 5275, 5298, 5291 kc for 15 meter use with AT-1 50¢ each; GE 0-5 MA meter 3 in square. D'arsonval, $4; Guardian 115 V 5 PDT relay, $3; International Crystals 6m converter, 7-11 mc. IF, $8; Millen R9-er, 10m coil wo/tube, $6. K6RFZ, NA 4-2048.

FOR SALE: Gonset G-50 Transceiver used only three months $250. WA6DJC, 6229 Calfax, North Hollywood, Calif. Anytime after 6 PM or on week ends. Call PO 1-6270.

POLAR-RELAYS: Western Electric #255A, R.T.T.Y. application, etc. Excellent condition only $3. each or $5. per pair postpaid—W6DIE, 833 7th Ave., Sacramento 18, Calif.

COMPLETE 160-10 METER STATION: DX-100, SX-100, 5 band trap ant. filter, relay, mike, key, phones. Will sell all as separate items. Also 522, TCS rcvr, misc parts. Send 4¢ stamp for list. Possible trade for mobile equip. W6QDI Piercy, 111 E. Deodara, Vacaville, Calif. Free delivery on large purchases up to 150 miles.

NOTICE: Still have a few dials left for: A Calibrated Variable Condenser, July 58 WRA, Capacity Measurer, August 58 WRA. Send 25 cents W6BLZ, 528 Colima St. La Jolla, Calif.

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ADVERTISER'S INDEX

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Arrow Sales	38
Atlas Radio & TV Parts Co.	43
Barry Electronics	40
C&H Sales Co.	47
Columbia Electronics	34
CQ-YL	41
Cornell-Dubilier Electric	48
Dow Radio Inc.	Cov. 3
Downey Electronics	42
DX QSL CO OP	35
Glass, J.J.	41
Globe Electronics	42
Hagerty Radio Supply	33 47
Hall, RC & LF	39
Heath Company	Cov. 2
Henry Radio	34
Hinz, Dick	37
Hiway Company	38
Hy-Gain Antenna Products	Cov.4
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LR Electronics	38
Mosley Electronics	36 40
Radio Products Sales	Cov. 4
Semiconductors 'n Stuff	39
Surplus Handbook	36
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Valley Electronics	2
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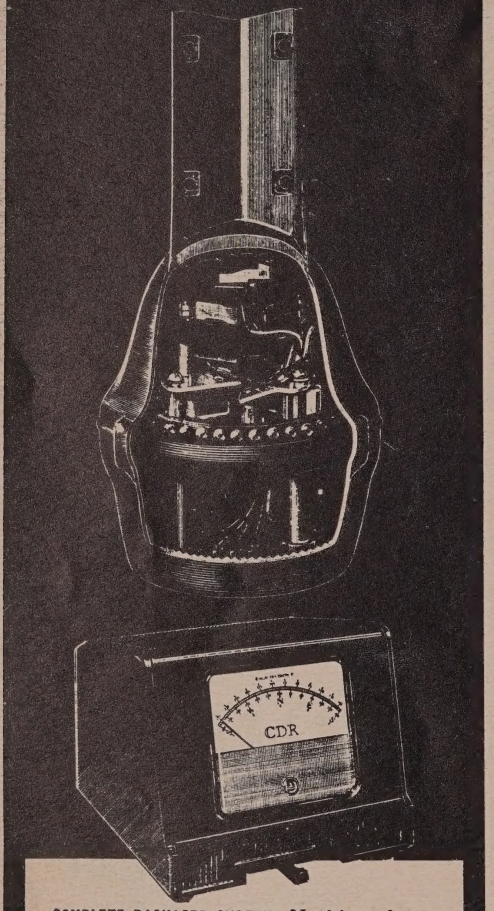

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The Radiart Corporation, Indianapolis, Ind.

with the YL's from page 32

Here's another doggoned onion in my garden. This one goes to those OMs particularly on cw who insisted on answering the gals 'CQ-YL' during the YL Anniversary Party. Then when the YL started to give them a contest number, section, and signal report they'd come back real cute with 'I'm an OM, hi hi'. One DX gal in Germany reported that she was only able to operate for a short time during the contest and that of the twelve stations she managed to work, eight were OMs. So big, fat, stinky onions to you fellows.

Odds and ends. I tried to talk to Joyce, KØIKL in Minneapolis the other morning but had a little difficulty. Seems as how her beam was pointed toward Georgia and was frozen!!! Hazel, K9QGR, certainly ought to know what time it is these days. Santa Claus brought her two 24-hour clocks! This should help her keep on schedule feeding the ten little pigs to whom she is playing nursemaid! I understand that a full kilowatt station will be on the air 24 hours a day from Squaw Valley, scene of the VIII Winter Olympic Games, from Feb. 1st to 28th. They plan to operate 10, 20, 40, 75 and 80 meters and just possibly 2 and 6. As of this time, I have no idea of the call they will be using but keep your ears open; this would be a real nice QSL card to have. I received a lovely card from Michelle, F3YL, Now if I could only understand French! I was an A student in French in college but that was, egads! years ago! However, I remember enough of it to be able to read her note alright and I shall attempt an answer; this won't be as easy. She enclosed a picture of herself for this column.

Well, that's about it for this month. I'm sorry if the column has sounded a bit disconnected but with the holiday confusion I had to do it a bit at a time whenever I got the chance.

THE ANSWER TO DX . . .
GONSET SSB EQUIPMENT

Any owner of the Gonset GSB-100 SSB transmitter/exciter and the powerful 1000 watt P.E.P. linear will have the pleasure of answering plenty of DX cards . . . and calls! This is SSB equipment of advanced design—stable, dependable—entirely non-critical, puts every desirable operating convenience at your fingertips.

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and—the GSB-101 linear amplifier: ● 1000 watts P.E.P. input! ● Grounded grid circuit allows driving power to appear in final output—efficiency up to 65%! ● Linear is driven easily by GSB-100 or similar transmitter in the 100 watt class ● full bandswitching with flexible pi network—coverage 80-40-20-15-10 meters.

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GSB-101 linear amplifier. . . . . .#3262. . . . . 459.50

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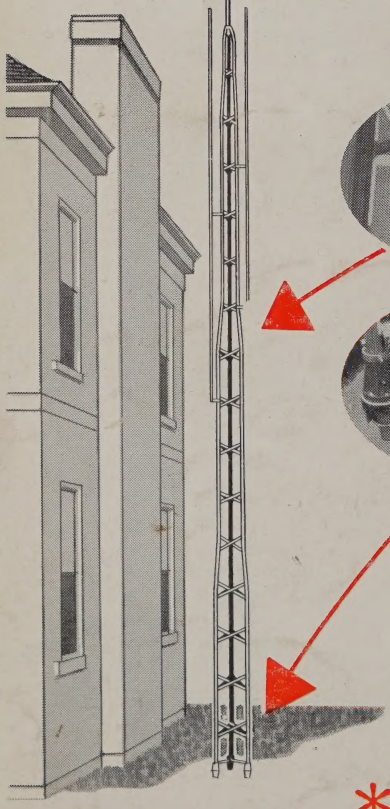

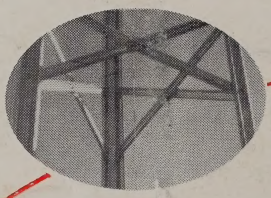

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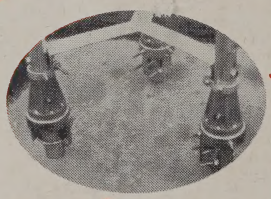

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